

**MILLER**  
**MB** DYER & CO. LLC

475 Seventeenth Street, Suite 1200  
Denver, Colorado 80202  
P: 303-292-0949  
F: 303-292-3901

October 26, 2007

Diana Mason  
Utah Division of Oil, Gas & Mining  
P.O. Box 145801  
Salt Lake City, UT 84114-5801

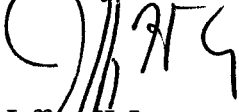
**RE: Applications for Permit to Drill**  
**Ute Tribal #1-29-14-20 NENE Section 29 T14S-R20E**  
**Ute Tribal #15-29-14-20 SWSE Section 29 T14S-R20E**  
**Ute Tribal #3-30-14-20 NENW Section 30 T14S-R20E**  
**Ute Tribal #11-30-14-20 NESW Section 30 T14S-R20E**  
**Ute Tribal #12-28-14-20 NWSW Section 28 T14S-R20E**  
**Ute Tribal #3-32-14-20 NENW Section 32 T14S-R20E**  
**Uintah County, Utah**

Dear Ms. Mason:

Enclosed please find a copy of the APD's for the Ute Tribal #3-30-14-20 and Ute Tribal #11-30-14-20. These wells will be drilled on Lease #U-019837 located on Ute Tribal Lands. Also please find a copy of the APD's for the Ute Tribal #1-29-14-20, Ute Tribal #15-29-14-20 and the Ute Tribal #12-28-14-20. These wells will be drilled on Lease #U-10166 located on Ute Tribal Lands. Additionally find a copy of the Ute Tribal #3-32-14-20 to be drilled on the State of Utah lease ML-44317 located on Ute Tribal Lands. Water for the drilling will come from Miller, Dyer & Co. existing water source well the Ute Tribal #30-4 located in NENW of Section 30-T14S-R20E.

Please do not hesitate to call me at (303) 292-0949 ext 102 if you have any questions or need additional information.

Sincerely,



Jeffrey H. Lang  
Vice President of Operations

CC: BLM - 3

**RECEIVED**  
**OCT 26 2007**  
**DIV. OF OIL, GAS & MINING**

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐  
(highlight changes)

<b>APPLICATION FOR PERMIT TO DRILL</b>				5. MINERAL LEASE NO: <b>ML-44317</b>	6. SURFACE: <b>Indian</b>
1A. TYPE OF WORK: <b>DRILL</b> <input checked="" type="checkbox"/> <b>REENTER</b> <input type="checkbox"/> <b>DEEPEN</b> <input type="checkbox"/>				7. IF INDIAN, ALLOTTEE OR TRIBE NAME: <b>Ute Indian Tribe</b>	
B. TYPE OF WELL:    OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> OTHER _____    SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input checked="" type="checkbox"/>				8. UNIT or CA AGREEMENT NAME: <b>N/A</b>	
2. NAME OF OPERATOR: <b>Miller, Dyer &amp; Co., LLC</b>				9. WELL NAME and NUMBER: <b>Ute Tribal 3-32-14-20</b>	
3. ADDRESS OF OPERATOR: <b>475 17th St Suite 1200</b> CITY <b>Denver</b> STATE <b>CO</b> ZIP <b>80202</b>			PHONE NUMBER: <b>(303) 292-0949</b>		
4. LOCATION OF WELL (FOOTAGES)  AT SURFACE: <b>809 FNL 1529 FWL</b> <i>611226X</i> <i>39.560844</i> AT PROPOSED PRODUCING ZONE: <b>SAME</b> <i>43796084</i> <i>-109.705289</i>				10. FIELD AND POOL, OR WILDCAT: <b>Flat Rock</b>	
				11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <b>NENW 32 14S 20E S</b>	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: <b>See Topo Map "A" (Attached)</b>				12. COUNTY: <b>Uintah</b>	
				13. STATE: <b>UTAH</b>	
15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET) <b>809</b>		16. NUMBER OF ACRES IN LEASE: <b>640</b>		17. NUMBER OF ACRES ASSIGNED TO THIS WELL: <b>40</b>	
18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET) <b>525</b>		19. PROPOSED DEPTH: <b>12,500</b>		20. BOND DESCRIPTION: <b>RLB0008085</b>	
21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): <b>7499 GR</b>		22. APPROXIMATE DATE WORK WILL START: <b>5/1/2008</b>		23. ESTIMATED DURATION: <b>40 Days</b>	

24. PROPOSED CASING AND CEMENTING PROGRAM					
SIZE OF HOLE	CASING SIZE, GRADE, AND WEIGHT PER FOOT	SETTING DEPTH	CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT		
26"	20"    Conductive    .250" Wall	40	Ready Mix to Surface		
12-1/4"	9-5/8"    J-55    36#	3,300	Class G & Prem Lite	727 sacks	1.17 & 3.38    11 & 15.8
8-3/4"	5-1/2"    N80/P110    17#	12,500	Class G & Prem Lite	1254 sacks	1.65 & 3.15    14.4-11.2-14

25. ATTACHMENTS	
VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES:	
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER  <input checked="" type="checkbox"/> EVIDENCE OF DIVISION OF WATER RIGHTS APPROVAL FOR USE OF WATER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN  <input type="checkbox"/> FORM 5, IF OPERATOR IS PERSON OR COMPANY OTHER THAN THE LEASE OWNER

NAME (PLEASE PRINT) <u>Jeffrey H. Lang</u>	TITLE <u>Vice President of Operations</u>
SIGNATURE <u><i>[Signature]</i></u>	DATE <u>10/23/07</u>

(This space for State use only)

API NUMBER ASSIGNED: 43-047-31741

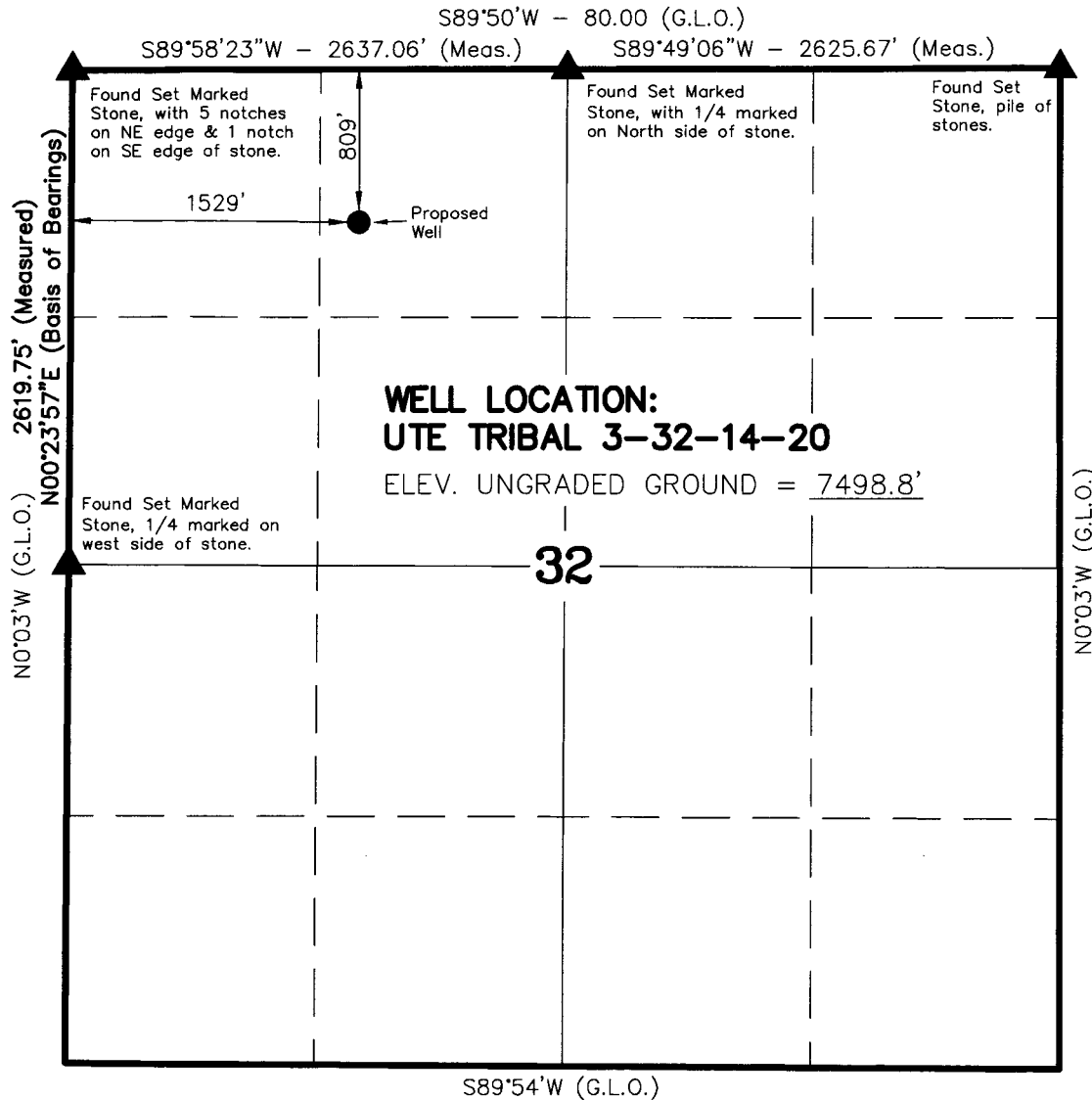
APPROVAL: Date: 11-21-07  
By: *[Signature]*

**Approved by the**  
**Utah Division of**  
**Oil, Gas and Mining**

**RECEIVED**  
**OCT 29 2007**  
**DIV. OF OIL, GAS & MINING**

(11/2001)

**T14S, R20E, S.L.B.&M.**

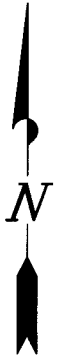
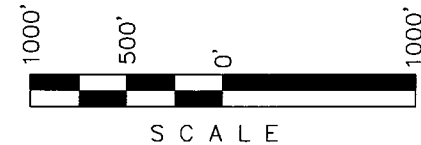


▲ = SECTION CORNERS LOCATED  
BASIS OF ELEVATION IS BENCH MARK 60 WF  
1952 LOCATED IN THE SW 1/4 OF SECTION 35,  
T14S, R20E, S.L.B.&M. THE ELEVATION OF THIS  
BENCH MARK IS SHOWN ON THE FLAT ROCK  
MESA 7.5 MIN. QUADRANGLE AS BEING 7363'.

**UTE TRIBAL 3-32-14-20**  
**(Proposed Well Head)**  
**NAD 83 Autonomous**  
LATITUDE = 39° 33' 39.02"  
LONGITUDE = 109° 42' 21.53"

**MILLER, DYER & CO. LLC**

WELL LOCATION, UTE TRIBAL 3-32-14-20,  
LOCATED AS SHOWN IN THE NE 1/4 NW  
1/4 OF SECTION 32, T14S, R20E, S.L.B.&M.  
UINTAH COUNTY, UTAH.



**NOTES:**

1. Well footages are measured at right angles to the Section Lines.
2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
3. Bearings are based on Global Positioning Satellite observations.

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS  
PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS  
MADE BY ME OR UNDER MY SUPERVISION AND THAT  
THE SAME ARE TRUE AND CORRECT TO THE BEST OF  
MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR  
No. 362251  
KOLBY R. KAY  
STATE OF UTAH

**TIMBERLINE**

**ENGINEERING & LAND SURVEYING, INC.**

38 WEST 100 NORTH - VERNAL, UTAH 84078

DATE SURVEYED: 09-07-07	SURVEYED BY: B.J.S.	<b>SHEET</b> <b>2</b> <b>OF 10</b>
DATE DRAWN: 09-25-07	DRAWN BY: M.W.W.	
SCALE: 1" = 1000'	Date Last Revised:	

**DRILLING PLAN  
MILLER, DYER & CO. LLC**

**Ute Tribal #3-32-14-20  
NENW Section 32 T14S-R20E**

**1. Estimated Formation Tops**

<b>Estimated Formation Tops:</b>	<b>Measured Depth</b>
Green River	Surface
Wasatch	2,214'
Base High Resistivity	3,219'
Mesaverde	4,367'
Castlegate Sandstone	6,205'
Mancos Shale	6,489'
Dakota Sandstone	10,597'
Cedar Mountain	10,752'
Morrison	10,978'
Curtis	11,505'
Entrada Sandstone	11,584'
Carmel	11,914'
Wingate	12,063'
TD	12,500'

**2. Estimated Depth and Thickness of Zones**

<b>Tops</b>	<b>MD</b>	<b>Thickness</b>	<b>Anticipated Formation Contents</b>
Wasatch	2,214		Oil and/or gas anticipated > 3,000'
		1000	
Mesaverde	4,367	500	Gas
Castlegate Sandstone	6,205	300	Gas
Dakota Sandstone	10,597	150	Gas
Cedar Mountain	10,752	200	Gas
Morrison	10,987	300	Gas
Entrada Sandstone	11,584	300	Gas
Wingate	12,063	500	Gas

**3. Pressure Control Equipment**

Schematic attached (Attachment "A")



Blow Out Preventer (BOP) will be equipped as follows:

- A. Type: Eleven (11) inch double gate hydraulic 3,000 psi BOP plus a 3000 psi annular preventer mounted on a 3,000 psi casinghead.
  - a. One set of blind rams (above)
  - b. One set of pipe rams (below)
  - c. Appropriate fill, kill and choke lines will be 3,000 psi working pressure

Note: The calculation of maximum anticipated surface pressure is detailed in Section 7. This calculation is based on the maximum anticipated bottom-hole pressure and a partially evacuated hole. According to this calculation, a 3000 psi BOP and annular preventer will be sufficient to drill this well safely. However, depending on the actual rig contracted for this well, a 5000 psi system may come with the rig. If so, all testing will be done to 5000 psi specifications.

B. Auxiliary Equipment:

Auxiliary equipment to include upper Kelly cock with a handle, a floor safety valve with subs to fit all drill string connections in use, and a string float valve.

C. Pressure Rating: 3,000 psi WP

D. Testing Procedure:

Hydraulic Ram-Type BOP

At a minimum, the BOP, choke manifold, and related equipment will be pressure tested to the approved working pressure of the BOP stack of 3,000 psi. This pressure will be maintained for a period of at least ten (10) minutes or until the requirements of the test are met, whichever is longer.

At a minimum, the above pressure test will be performed:

- 1) when the BOP is initially installed,
- 2) whenever any seal subject to test pressure is broken,
- 3) following related repairs, and
- 4) at thirty (30) day intervals.

In addition to the above, the pipe and blind rams will be activated each trip, but no more than once each day.

E. Choke Manifold Equipment:

All choke lines will be straight lines; turns will use tee blocks, or targeted running tees, and will be anchored to prevent whip and vibration. The manifold will have two (2) manual chokes and a pressure gauge.

F. Accumulator:

The accumulator will have sufficient capacity to open the hydraulically controlled choke line valve, if so equipped, close all rams plus the annular BOP, and retain a minimum of 200 psi above precharge on the closing manifold without the use of the closing unit pumps. The fluid reservoir capacity will be double the usable fluid volume of the accumulator system capacity, and the fluid level of the reservoir will be maintained to the manufacturer's recommendations.

**G. Miscellaneous Information:**

The choke manifold and BOP ram extensions rods with hand wheels will be located outside the rig substructure. The hydraulic BOP closing unit will be located at least 25 feet from the well head, but readily accessible to the driller. Exact location and configuration of the hydraulic BOP closing unit will depend on the layout of the particular rig contracted to drill this well.

A flare line will be installed from the choke manifold to a flare pit, extending a minimum of 100 feet from the center of the drill hole.

The BOP and related pressure control equipment will be installed, tested and maintained in compliance with the specifications and requirements of the Onshore Oil and Gas Order Number 2.

**Auxiliary Equipment**

- a. Kelly cock – Yes
- b. Float sub at bit – No
- c. Mud logger & instrumentation – Yes
- d. Full-opening safety valve on rig floor – Yes
- e. Rotating head – No

**4. Casing Program**

	Setting Depth	Hole Size	Casing O.D.	Grade	Weight/Ft.	Thread
Conductor	40'	26"	20"	Conductor	0.250" wall	
Surface	3,300'	12-1/4"	9-5/8"	J-55	36#	STC
Production	0'-1,200'	8-3/4"	5-1/2"	N-80	17#	Buttress
	1,200'-11,000'	8-3/4"	5-1/2"	N-80	17#	LTC
	11,000'-12,500'	8-3/4"	5-1/2"	P-110	17#	LTC

- Subject to review on the basis of actual conditions encountered. Production casing depth will be adjusted based on results.

- Depending on availability, 17#, P-110, LT&C may be substituted for the 17#, N-80, Buttruss casing at the top of the production string.
- Casing design runs are shown for each casing string. See Attachment “B”

## 5. Cement Program

### Conductor Casing: 0'-40'

Ready Mix to surface

### Surface Casing: 0' – 3300'

Lead Cement:

0'-2800'

11.0 ppg Premium Lite II cement

10% bwoc Bentonite

0.5% bwoc Sodium Metasilicate

5 #/sk Kol Seal

0.25 #/sk Cello Flake

3% bwow Potassium Chloride

Cement yield = 3.38 ft<sup>3</sup>/sk w/ 20.5 gal/sk water

Annular volume (in open hole) = 2760' \* 0.3132 ft<sup>3</sup>/ft = 864.4 ft<sup>3</sup>

Excess = 50%

Total volume (open hole) w/ excess = 864.4 ft<sup>3</sup> \* 1.50 = 1296.6 ft<sup>3</sup>

Annular volume (in conductor) = 40' \* 1.5687 ft<sup>3</sup>/ft = 62.7 ft<sup>3</sup>

Excess = 0%

Total volume (open hole & conductor) = 1359 ft<sup>3</sup>

**Lead Cement Requirement = 1359 ft<sup>3</sup> / 3.38 ft<sup>3</sup>/sk = 403 sks**

Tail Cement:

2800'-3300' plus shoe joint

15.8 ppg Class G

2% bwoc Calcium Chloride

0.25 #/sk Cello Flake

Cement yield = 1.17 ft<sup>3</sup>/sk w/ 5 gal/sk water

Annular volume (in open hole) = 500' \* 0.3132 ft<sup>3</sup>/ft = 156.6 ft<sup>3</sup>

Excess = 50%

Total volume (open hole) w/ excess = 156.6 ft<sup>3</sup> \* 1.50 = 234.9 ft<sup>3</sup>

Shoe volume = 40' \* 0.4341 ft<sup>3</sup>/ft = 17.4 ft<sup>3</sup>

Excess (shoe) = 0%

Total volume (open hole & shoe) = 234.9 + 17.4 = 252 ft<sup>3</sup>

**Tail Cement Requirement = 252 ft<sup>3</sup> / 1.17 ft<sup>3</sup>/sk = 217 sks**

Displacement Volume:

$$3260' * 0.0773 \text{ bbl/ft} = 252 \text{ bbls}$$

**Top Out Cement:**

0-200' (displaced down backside w/ 1" string)

15.8 ppg Class G

2% bwoc Calcium Chloride

0.25 #/sk Cello Flake

Cement yield = 1.17 ft<sup>3</sup>/sk w/ 5 gal/sk water

Annular volume = 200' \* 0.3132 ft<sup>3</sup>/ft = 62.6 ft<sup>3</sup>

Excess = 100%

Total volume w/ excess = 62.6 ft<sup>3</sup> \* 2.0 = 125.2 ft<sup>3</sup>

**Top Out Cement Requirement** = 125.2 ft<sup>3</sup> / 1.17 ft<sup>3</sup>/sk = **107 sks**

**Production Casing: 0'-12,500' (DV Tool @ 10,000')**

**Stage 1**

**Cement:**

10,000'-12,500'

14.4 ppg 50:50 Poz (Fly Ash): Class G Cement (or equivalent)

0.05 #/sk Static Free

0.2% bwoc R-3

3% bwow Potassium Chloride

0.25 #/sk Cello Flake

0.9% bwoc FL-25

1 gal / 100 sk FP-6L

35% bwoc Silica Flour

0.2% bwoc BA-59

0.2% bwoc Bentonite

Cement yield = 1.65 ft<sup>3</sup>/sk w/ 7.12 gal/sk water

Annular volume = 2500' \* 0.2526 ft<sup>3</sup>/ft = 631.5 ft<sup>3</sup>

Excess = 25%

Total volume w/ excess = 631.5 ft<sup>3</sup> \* 1.25 = 789.4 ft<sup>3</sup>

Shoe volume = 40' \* 0.1305 ft<sup>3</sup>/ft = 5.2 ft<sup>3</sup>

Excess (shoe) = 0%

Total volume w/ excess (incl. shoe) = 789.4 + 5.2 = 794 ft<sup>3</sup>

**Stage 1 Cement Requirement** = 794 ft<sup>3</sup> / 1.65 ft<sup>3</sup>/sk = **480 sks**

**Displacement Volume:**

$$(12,500' - 40') * 0.0232 \text{ bbl/ft} = 289.0 \text{ bbls}$$

**Stage 2** (DV tool to 500' inside surface casing)

**Lead Cement:**

2,800'-9,593'

11.2 ppg Premium Lite II cement (or equivalent)

3 #/sk CSE

0.3% bwoc R-3  
 3% bwow Potassium Chloride  
 10% bwoc Bentonite  
 0.2% bwoc Sodium Metasilicate  
 Cement yield = 3.15 ft<sup>3</sup>/sk w/ 19 gal/sk water  
 Volume inside surface casing = 500' \* 0.2691 ft<sup>3</sup>/ft = 134.5 ft<sup>3</sup>  
 Excess = 0%  
 Annular volume = 6293' \* 0.2526 ft<sup>3</sup>/ft = 1589.6 ft<sup>3</sup>  
 Excess = 25%  
 Annular volume w/ excess = 1589.6 ft<sup>3</sup> \* 1.25 = 1987.0 ft<sup>3</sup>  
 Total volume = 134.5 + 1987.0 = 2121.5 ft<sup>3</sup>  
**Lead Cement Requirement = 2121.5 ft<sup>3</sup> / 3.15 ft<sup>3</sup>/sk = 674 sks**

**Tail Cement:**

9,593' – 10,000'  
 14.2 ppg 50:50 Poz (Fly Ash): Class G Cement (or equivalent)  
 0.05% bwoc Static Free  
 0.1% bwoc R-3  
 3% bwow Potassium Chloride  
 0.9% bwoc FL-25  
 1 gal / 100 sk FP-6L  
 2% bwoc Bentonite  
 0.2% bwoc Sodium Metasilicate  
 0.2% bwoc BA-59  
 Cement yield = 1.29 ft<sup>3</sup>/sk w/ 5.8 gal/sk water  
 Annular volume = 407' \* 0.2526 ft<sup>3</sup>/ft = 102.8 ft<sup>3</sup>  
 Excess = 25%  
 Annular volume w/ excess = 102.8 ft<sup>3</sup> \* 1.25 = 128.5 ft<sup>3</sup>  
**Tail Cement Requirement = 100 sks** *1,29 cf/sk*

**Displacement Volume:**

10,000' \* 0.0232 bbl/ft = 232 bbls

- A detailed cement program is included. See Attachment "C"

**6. Mud Program (visual monitoring)**

Interval	Mud Type	Weight	Viscosity	Fluid Loss
0'- 2,400'	Water/Gel/Lime/Native Clays	8.3-8.6 ppg	33-36 sec/qt	N/C
2,400'- 12,500'	KCl/Polymer or DAP/Polymer	9.0-9.3 ppg	38-42 sec/qt	8-10cc

Sufficient mud materials to maintain mud properties, control lost circulation, contain a "gas" kick, and rebuild an active mud system will be available on location during drilling operations.

7. **Testing, Logging, Coring**

- a. Drill stem tests – non anticipated
- b. Electric logs - DIL/SP/GR, FDC/CNL/CAL/PE/GR, BHC sonic/GR all from TD to surface
- c. Coring – possible sidewall coring in the Dakota, Cedar Mountain, Morrison and Entrada.

8. **Anticipated Bottom Hole Pressure and Temperature, and other Potential Hazards**

A. Bottom Hole Pressure:

Maximum anticipated bottom hole pressure is 4,375 psi (calculated at 0.35 psi/ft. at the 12,500' (TVD) level of the Wingate). This pressure gradient was calculated from a bottom hole pressure buildup tests conducted on four separate wells located in Section 29, T14S-R20E. These wells are the closest wells to the subject well completed in the same deep zones. Therefore the maximum anticipated surface pressure is 1,625 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/ft.).

B. Bottom Hole Temperature:

The bottom hole temperature anticipated in this wellbore is approximately 230 degrees Fahrenheit at 12,500' TVD. This anticipated temperature is consistent with the temperatures encountered in the other four deep wells drilled in this area.

C. Abnormal Pressures or Temperatures:

As demonstrated above, no abnormal pressures or temperatures are anticipated in this well.

D. Potential Hazards:

No hydrogen sulfide (H<sub>2</sub>S) gas or other potential hazards have been encountered or are known to exist in any well drilled to similar depths in the general area.

9. **Anticipated Starting Date and Duration**

Spud Date: Upon governmental approval and drilling rig availability

Duration of Operations:

- 1) Drilling: Approximately 40 days.
- 2) Completion: Approximately 30 days

Drilling Notification:

Prior to location construction, moving in the drilling rig and spudding the well, the Vernal field office of the BLM will be notified of our intentions to commence operations, unless otherwise instructed in the site specific conditions of approval.

**SURFACE USE PLAN  
MILLER, DYER & CO. LLC**

**Ute Tribal #3-32-14-20  
NENW Section 32 T14S-R20E**

1. Existing Roads:
  - a. Topographic Map "A" shows the vicinity of the well, including a portion of the Agency Draw Road. This road is reached from Ouray, Utah, by following the Seep Ridge Road south to Buck Canyon; taking the Buck Canyon road west to the Willow Creek Road; then north on the Willow Creek Road to Santio Crossing, which is at the junction of the Willow Creek Road and the Agency Draw Road.
  - b. Topographic Map "B" shows the point approximately 53 miles south of Ouray where the access road to the well departs from the Agency Draw Road. Continue 0.3 mile north then 0.1 mile east of the Flat Rock Mesa Road. The access road is 80' southeast to the Ute Tribal 3-32-14-20.
2. Planned Access Road: (refer to Topographic Map "D")
  - a. Length of new road route will be approximately 80 feet.
  - b. The right-of-way width is 55' (27.5' on either side of the centerline) with a 20-foot wide running surface.
  - c. Maximum grade will be less than 2%
  - d. No turn-outs are planned.
  - e. The new road will be crowned, ditched and dipped to provide adequate drainage.
  - f. Culverts will be used if necessary.
  - g. No gates or cattle guards will be needed. Nor will any existing facilities be modified.
  - h. The proposed road was flagged when the location was staked.
  - i. The authorized officer will be contacted at least 24 hours in advance of commencement of construction of the access road and well pad.
3. Location of Existing Wells:
  - a. The nearest producing well is the Ute Tribal #32-1A, located approximately 525' northeast of the proposed well location in Section 28-T14S-R20E.
4. Location of Existing and/or Proposed Facilities:
  - a. There are no existing facilities on the proposed well pad. All proposed facilities will be contained within the proposed location site (see attached "Location Layout"). Topographic Map "D" shows the proposed route for a gas line, to be co-located in the access road right-of-way, and connected to the Miller, Dyer & Co. LLC gathering system.
  - b. The operator will submit information concerning proposed on and off well pad facilities once production has been established by applying for approval of subsequent operations.

5. Location and Type of Water Supply:
  - a. Miller, Dyer & Co. existing water supply well the Ute Tribal 30-4A, located in the NENW Section 30-T14S-R20E on Indian surface has been approved by the Ute Indian Tribe. The existing BIA water permit number for the well is #14-20-H62-5069.
  - b. Some produced water from existing wells may be used for drilling. Fresh water may also be taken at a point of diversion at Santio Crossing from Willow Creek in the SESE Section 29-T12S-R21E, SLB&M, if available during the drought. This water will be taken under the terms of the Ute Oilfield Water Service's state filing.
  - c. Water will be transported by truck on the Agency Draw and Flat Rock Mesa roads.
6. Source of Construction Materials:
  - a. It is anticipated that any construction materials will be needed for the drilling phase of this project. Gravel, shale or road base materials needed to upgrade access roads and well pad will be obtained from the operator's pit located on SITLA land near Chimney Rock.
  - b. The entire well site and all access roads to be upgraded for built are located on lands held in trust by the federal government for the Ute Indian Tribe.
  - c. All construction materials used in building the well pad and access road will be native materials accumulated during construction. In the event that additional materials are needed, they will be obtained from the operator's existing pit on SILTA land or from private sources.
7. Methods for Handling Waste Disposal:
  - a. Methods and locations for safe containment and disposal of the following materials:
    1. Drill cuttings will be buried in the reserve pit.
    2. Garbage and trash will be contained in trash baskets and hauled to a sanitary landfill. There will be no burning of trash on the location at any time.
    3. Salts will be kept in proper containers and salvaged for future use or disposed of at an approved facility.
    4. Chemicals will be kept in proper containers and salvaged for future use or disposed of at an approved facility.
    5. Sewage waste will be contained in portable chemical toilets serviced by a commercial sanitary service.
  - b. Drilling fluids will be contained in the reserve pit and mud tanks. To the extent possible, drilling fluids and water will be saved for use at future drilling locations. Unusable drilling fluids and water will be disposed of in an approved manner upon the completion of the well.
  - c. No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced,



stored, transported, or disposed of annually in association with the drilling, testing, of this well. Furthermore, extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will not be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completing of this well.

d. Reserve pit and waste water disposal:

1. The reserve pit will be constructed so as not to lead, break, or allow the discharge of fluids.
2. The reserve pit will be lined with 12 mil plastic nylon reinforced liner installed over sufficient bedding material to cover any exposed rocks. The pit will be fenced on three sides with 39" net wire, topped with a minimum of one strand of barbed wire. All wire will be stretched prior to attachment to the corner posts. The fourth side will be fenced when drilling activities are completed to allow drying.
3. The closure of the reserve pit will follow the Guidance for Reserve Pit Closure as found in the Environmental Handbook of the State of Utah, Division of Oil, Gas & Mining.
  - a) The reserve pit will be closed within one year following drilling and completion of a well (R649-16.3).
  - b) Liquid in a pit will be allowed to either evaporate or be removed. If removed, it will be disposed of properly, some options are injection (in this well or another), hauled to a permitted disposal facility, or re-used at another well.
  - c) The pit liner may be cut off above the cuttings/mud level and hauled to a landfill, or folded in and processed along with other pit contents and covered. No remnants of liner material will be exposed at the surface when pit closure is complete. Pit area will be mounded so as not to allow ponding of water and drainage diverted around as not to allow erosion of the old pit site.
4. A closed drilling system will not be used as there is no irrigable land, floodplains, or lands under crop production.
5. In accordance with Onshore Order No. 7, a permanent disposal method and location will be applied for within 90 days of establishing production.
6. After first production:
  - a) Produced waste water will be confined to the reserve pit, or a storage tank for a period not to exceed 90 days.
  - b) During the 90 day period, in accordance with Onshore Order No. 7, an application for approval of a permanent disposal method and location, along with the required water analysis will be submitted to the authorized officer.
  - c) No produced water will be used for dust or weed control of any kind. Should spills of oil, produced water, or hazardous materials occur, the area of the spill will be re-mediated

and contaminated soil and recovered oil or hazardous materials will be hauled to an approved disposal facility.

8. Ancillary Facilities:
  - a. No airstrips will be built. Mobile living quarters and office facilities for supervisors, geologists, mud engineers, mud loggers and air compressor personnel will be confined to the drilling location as shown on the "Location Layout" diagram. The drilling crew will be housed on location.
9. Well Site Layout:
  - a. Refer to attached "Typical Cross Section" diagram for cuts and fills and relation to topography.
  - b. Refer to "Location Layout" diagram for location of mud tanks, reserve and flare pits, pipe racks, living facilities and top soil stockpiles.
  - c. Refer to "Location Layout" diagram for rig orientation, access road and parking area. Parking area will be in the northeast corner of the location.
10. Plans for Restoration of the Surface:
  - a. Producing well location
    1. Immediately upon well completion the location and surrounding area will be cleared of all tubing, equipment, debris, materials, trash and junk not required for production.
    2. Immediately upon well completion any hydrocarbons on the reserve pit will be removed and disposed of properly.
    3. The reserve pit and that portion of the location not needed for production facilities/operations will be re-contoured to the approximate natural contours. The reserve pit will be reclaimed within 90 days of the date of well completion, or as soon thereafter as is practical. Before any dirt work takes place, the reserve pit must be completely dry and all cans, barrels, pipe, etc removed. The liner will be perforated and torn prior to backfilling.
    4. Access roads will be graded and maintained to prevent erosion and accommodate year-round traffic.
    5. All disturbed areas not needed for operations will be seeded with the mixture required by the BIA in the manner specified by the BIA.
  - b. Dry Hole/Abandoned Location
    1. At such time as it is determined that the well is to be plugged and abandoned, the operator will submit a subsequent report of abandonment to the BLM and the BIA. The BLM will attach plugging conditions of approval, and the BIA will attach conditions of approval for the restoration of the surface.
11. Surface Ownership:
  - a. Access roads and location are held in trust for the Ute Indian Tribe by the United States. The operator has obtained a right-of-way with the BIA and

submitted payment for damages as specified in its Exploration and Development Agreement with the Ute Indian Tribe.

12. Additional Information:

- a. The operator will inform all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator will immediately stop work that might further disturb such materials, and will inform the assigned monitor and the authorized officer (AO) at the BIA. Within five working days the AO will inform the operator as to:
  1. Whether the materials appear to be eligible for the National Register of Historic Places;
  2. The mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and
  3. A time frame for the AO to complete an expedited review under 36 CFR 900.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.
- b. If the operator wishes at any time to relocate activities to avoid the cost of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that required mitigation has been completed, the operator will be allowed to resume construction.
- c. At the request of the Ute Indian Tribe, a 30'-wide fire break will be bladed around the perimeter of the location.

**Bonding:**

Please be advised that Miller, Dyer & Co. LLC is considered to be the operator of the Ute Tribal #3-32-14-20 well; NENW of Section 32, T14S-R20E Uintah County, Utah; and all producing zones; and is responsible for the operations conducted upon the leased lands. Bond coverage is provided by Certificate of Deposit #UTB000058.

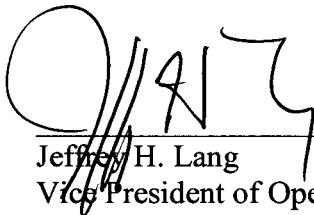
**Operator's Certification:**

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am

responsible for the operation conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 23<sup>rd</sup> day of October, 2007.

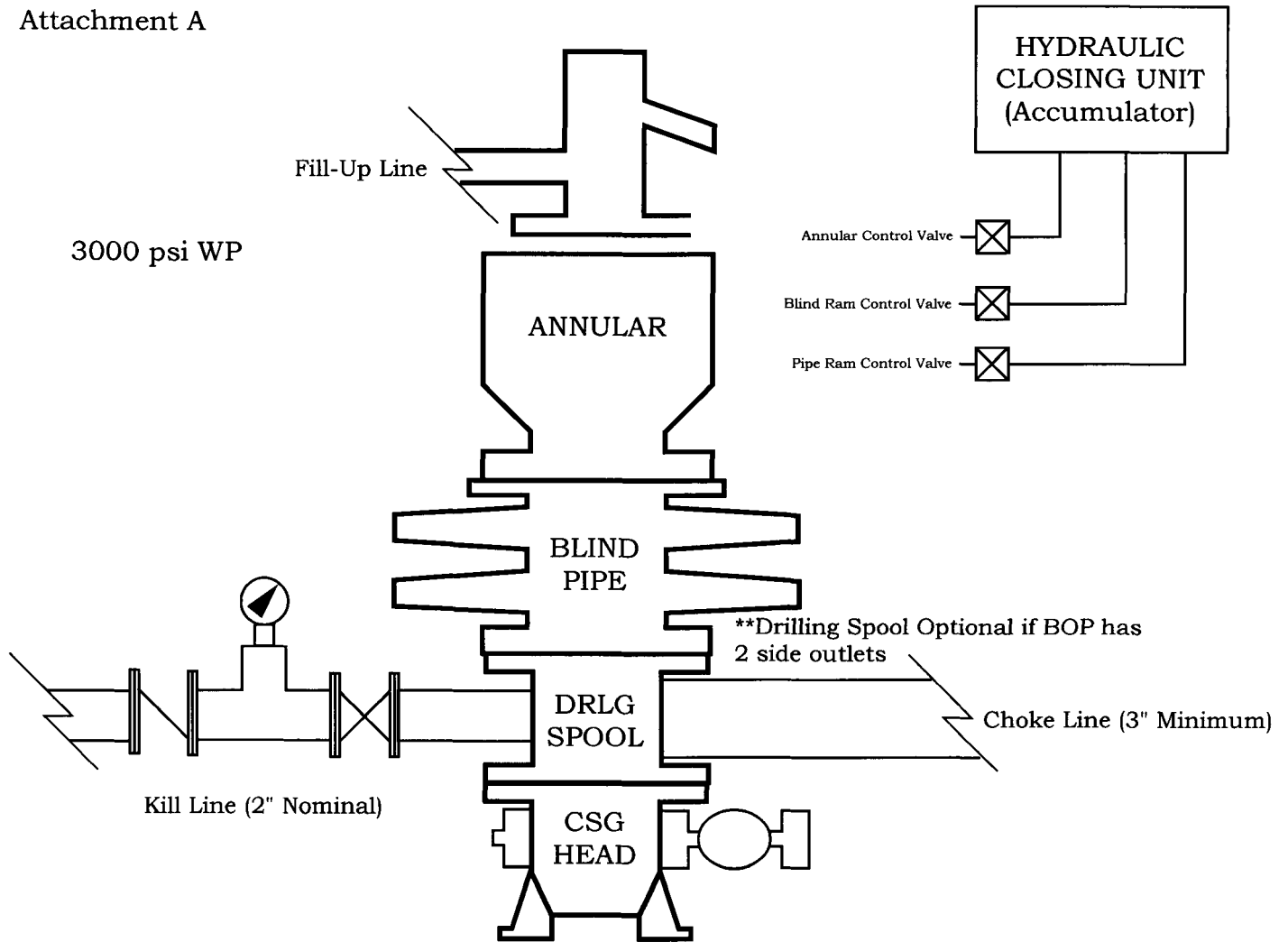
Jeffrey H. Lang  
Vice President of Operations  
Miller, Dyer & Co. LLC  
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Denver, CO 80202  
Office: 303 292 0949 Ext 102  
FAX: 303 292 3901  
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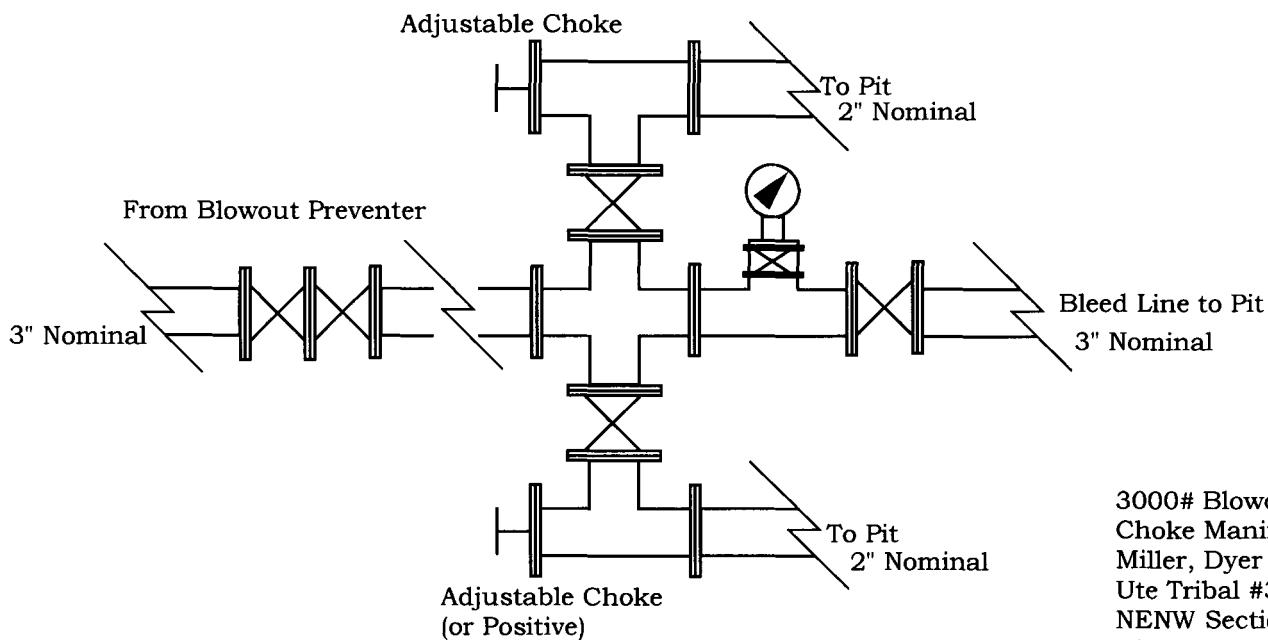
Jeffrey H. Lang  
Vice President of Operations

The Onsite Inspection for this well will be conducted after the APD has been submitted to the BLM as per the new requirements of Onshore Order #1 dated March 7, 2007.

Attachment A



Choke Manifold Requirement (3000 psi WP)



3000# Blowout Preventer &  
Choke Manifold Schematic  
Miller, Dyer & Co. LLC  
Ute Tribal #3-32-14-20  
NENW Section 32 T14S-R20E  
Uintah County, Utah

**IMPORTANT  
NOTICE:**

This information should be checked by the engineer responsible for the design to insure its accuracy. U. S. Steel makes no express or implied warranty of any kind in respect either to the information furnished or the materials referred to or as to the suitability thereof for any particular application, use or purpose, and expressly disclaims any and all such warranties. Anyone making use of this information does so at their own risk and assumes full responsibility as to its suitability for the use intended and any and all liability resulting from such use.

Date: 09-26-2007 16:42

**U. S. STEEL GENERATED CHECK STRING DESIGN**

<b>CASING COMBINATION DESIGN NO</b>	C01560
<b>SUBMITTED BY</b>	Jeff Lang
<b>CUSTOMER</b>	Miller, Dyer & Co. LLC
<b>OUTSIDE DIAMETER</b>	9.625
<b>MUD WEIGHT</b>	9.300
<b>SOUR SERVICE</b>	NO

ITEM NUMBER	LENGTH FEET	ZONE FEET	WEIGHT LB/FT	GRADE	JOINT TYPE	SECTION WEIGHT LB	TOTAL WEIGHT LB
1	3300	0-3300	36	J-55	SHORT ROUND	118800	118800

***** SAFETY-FACTORS *****					
ITEM NUMBER	EXTERNAL PRESSURE COLLAPSE	TENSION YIELD STRENGTH	TENSION ULTIMATE STRENGTH	INTERNAL YIELD PRESSURE	LEAK RESISTANCE
TARGET	1.125	1.250	1.800	1.000	1.000
1	1.268	3.757	3.313	2.208	5.309

**Note: Safety Factors for Internal Yield Pressure (Pipe or joint) and Leak Resistance are based on an Internal Pressure of 1594 PSI.**

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Date: 09-26-2007 16:34

### U. S. STEEL GENERATED CHECK STRING DESIGN

CASING COMBINATION DESIGN NO

C01546

SUBMITTED BY

Jeff Lang

CUSTOMER

Miller, Dyer & Co. LLC

OUTSIDE DIAMETER

5.500

MUD WEIGHT

9.300

SOUR SERVICE

NO

ITEM NUMBER	LENGTH FEET	ZONE FEET	WEIGHT LB/FT	GRADE	JOINT TYPE	SECTION WEIGHT LB	TOTAL WEIGHT LB
1	1200	0-1200	17	N-80	BUTTRESS	20400	212500
2	9800	1200-11000	17	N-80	LONG ROUND	166600	192100
3	1500	11000-12500	17	P-110	LONG ROUND	25500	25500

***** SAFETY - FACTORS *****					
ITEM NUMBER	EXTERNAL PRESSURE COLLAPSE	TENSION YIELD STRENGTH	TENSION ULTIMATE STRENGTH	INTERNAL YIELD PRESSURE	LEAK RESISTANCE
TARGET	1.125	1.250	1.800	1.000	1.000
1	8.287	1.868	2.099	1.282	2.666
2	1.158	1.561	1.809	1.282	2.181
3	1.239	16.165	17.450	1.762	2.181

**Note:** Safety Factors for Internal Yield Pressure (Pipe or joint) and Leak Resistance are based on an Internal Pressure of 6038 PSI.

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Date: 09-26-2007 16:35

### U. S. STEEL GENERATED CHECK STRING DESIGN

CASING COMBINATION DESIGN NO

C01547

SUBMITTED BY

Jeff Lang

CUSTOMER

Miller, Dyer & Co. LLC

OUTSIDE DIAMETER

5.500

MUD WEIGHT

9.300

SOUR SERVICE

NO

ITEM NUMBER	LENGTH FEET	ZONE FEET	WEIGHT LB/FT	GRADE	JOINT TYPE	SECTION WEIGHT LB	TOTAL WEIGHT LB
1	1200	0-1200	17	P-110	LONG ROUND	20400	212500
2	9800	1200-11000	17	N-80	LONG ROUND	166600	192100
3	1500	11000-12500	17	P-110	LONG ROUND	25500	25500

***** SAFETY - FACTORS *****					
ITEM NUMBER	EXTERNAL PRESSURE COLLAPSE	TENSION YIELD STRENGTH	TENSION ULTIMATE STRENGTH	INTERNAL YIELD PRESSURE	LEAK RESISTANCE
TARGET	1.125	1.250	1.800	1.000	1.000
1	11.277	1.940	2.094	1.762	2.181
2	1.158	1.561	1.809	1.282	2.181
3	1.239	16.165	17.450	1.762	2.181

Note: Safety Factors for Internal Yield Pressure (Pipe or joint) and Leak Resistance are based on an Internal Pressure of 6038 PSI.

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Proposal No: 179969767A

**Miller, Dyer & Co.,LLC**  
Flat Rock Generic

**ATTACHMENT C**

Uintah County, Utah  
September 25, 2007

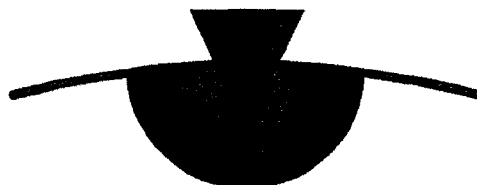
### **Well Proposal**

**Prepared for:**

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**Prepared by:**

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**Service Representatives:**

Clark Emrich  
Technical Account Manager  
Denver, Colorado  
Bus Phone: (303) 832-3722  
Email: cemrich@bjsservices.com  
Mobile: (303) 549-4180

Operator Name: Miller, Dyer & Co.,LLC  
Well Name: Flat Rock Generic  
Job Description: Surface: 9 5/8" CSG x 12.25" O.H. x 3300' MD  
Date: September 25, 2007



Proposal No: 179969767A

### JOB AT A GLANCE

Depth (TVD)	3,300 ft
Depth (MD)	3,300 ft
Hole Size	12.25 in
Casing Size/Weight :	9 5/8 in, 36 lbs/ft
Pump Via	9 5/8" O.D. (8.921" I.D) 36
Total Mix Water Required	9,357 gals
Pre-Flush	
Water	40 bbls
Density	8.4 ppg
Lead Slurry	
Premium Lite II Cement	403 sacks
Density	11.0 ppg
Yield	3.38 cf/sack
Tail Slurry	
Class G + Additives	217 sacks
Density	15.8 ppg
Yield	1.17 cf/sack
Displacement	
Water	252 bbls
Density	8.4 ppg

Operator Name: Miller, Dyer & Co.,LLC  
 Well Name: Flat Rock Generic  
 Job Description: Surface: 9 5/8" CSG x 12.25" O.H. x 3300' MD  
 Date: September 25, 2007



Proposal No: 179969767A

## WELL DATA

### ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
19.500 CASING	40	40
12.250 HOLE	3,300	3,300

### SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
9.625	8.921	36	3,300	3,300

Float Collar set @ 3,260 ft  
 Mud Density 8.50 ppg  
 Mud Type Water Based  
 Est. Static Temp. 120 ° F  
 Est. Circ. Temp. 97 ° F

### VOLUME CALCULATIONS

40 ft	x	1.5687 cf/ft	with	0 % excess	=	62.7 cf
2,760 ft	x	0.3132 cf/ft	with	50 % excess	=	1296.6 cf
500 ft	x	0.3132 cf/ft	with	50 % excess	=	234.9 cf
40 ft	x	0.4341 cf/ft	with	0 % excess	=	17.4 cf (inside pipe)
<b>TOTAL SLURRY VOLUME</b>					=	1611.6 cf
					=	287 bbls

VERIFY TUBULAR CONFIGURATION, PROCEDURE, AND PROPER DISPLACEMENT DEPTH WITH CUSTOMER REPRESENTATIVE PRIOR TO PUMPING.

BHST has been estimated from 1.2 deg/100 ft gradient with an 80 degree ambient rock temperature. The BHCT has been calculated using API standards.

**Operator Name:** Miller, Dyer & Co.,LLC  
**Well Name:** Flat Rock Generic  
**Job Description:** Surface: 9 5/8" CSG x 12.25" O.H. x 3300' MD  
**Date:** September 25, 2007



**Proposal No:** 179969767A

## **FLUID SPECIFICATIONS**

Pre-Flush 40.0 bbls Water @ 8.4 ppg

<b>FLUID</b>	<b>VOLUME CU-FT</b>	<b>VOLUME FACTOR</b>	<b>AMOUNT AND TYPE OF CEMENT</b>
Lead Slurry	1359	/ 3.3	= 403 sacks Premium Lite II Cement + 3% bwow Potassium Chloride + 0.25 lbs/sack Cello Flake + 5 lbs/sack Kol Seal + 10% bwoc Bentonite + 0.5% bwoc Sodium Metasilicate + 196.8% Fresh Water
Tail Slurry	252	/ 1.1	= 217 sacks Class G Cement + 2% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 44.3% Fresh Water

Displacement 252.0 bbls Water @ 8.4 ppg

## **CEMENT PROPERTIES**

	<b>SLURRY NO. 1</b>	<b>SLURRY NO. 2</b>
Slurry Weight (ppg)	11.00	15.80
Slurry Yield (cf/sack)	3.38	1.17
Amount of Mix Water (gps)	20.53	5.00
Estimated Pumping Time - 70 BC (HH:MM)	5:00	2:00
<b>COMPRESSIVE STRENGTH</b>		
24 hrs @ 95 ° F (psi)	400	3500

THICKENING TEST TIMES ARE ESTIMATES. SLURRIES ARE SUBJECT TO CHANGE BASED ON TEST RESULTS FROM THE REGION LABORATORY.

SLURRY VOLUMES ARE ESTIMATED AND ARE SUBJECT TO CUSTOMER VERIFICATION.

PLEASE DOCUMENT HOW LONG WELL HAS BEEN CIRCULATED PRIOR TO CEMENTING AND INCLUDE ANY OTHER IMPORTANT ISSUES ON THE CEMENT REPORT.

Operator Name: Miller, Dyer & Co.,LLC  
Well Name: Flat Rock Generic  
Job Description: 2 STG L/S: 5 1/2" CSG x 8.75" O.H. x 12,400'  
Date: September 25, 2007



Proposal No: 179969767A

### JOB AT A GLANCE

Depth (TVD)	12,500 ft
Depth (MD)	12,500 ft
Hole Size	8.75 in
Casing Size/Weight :	5 1/2 in, 17 lbs/ft
Pump Via	5 1/2" O.D. (4.892" I.D) 17
Total Mix Water Required	16,908 gals
Stage No: 1	Float Collar set @ 12,460 ft
Spacer	
2% KCl Water	20 bbls
Density	8.4 ppg
Mud Wash	
Mud Clean I	1,000 gals
Density	8.4 ppg
Spacer	
2% KCl Water	20 bbls
Density	8.4 ppg
1st Tail Slurry	
50:50:2 (Poz:G:Gel) + Add's	480 sacks
Density	14.4 ppg
Yield	1.65 cf/sack
Displacement	
Drilling Mud	290 bbls
Density	9.5 ppg

Operator Name: Miller, Dyer & Co.,LLC  
Well Name: Flat Rock Generic  
Job Description: 2 STG L/S: 5 1/2" CSG x 8.75" O.H. x 12,400'  
Date: September 25, 2007



Proposal No: 179969767A

**JOB AT A GLANCE (Continued)**

<b>Stage No: 2</b>	<b>Stage Collar set @ 10,000 ft</b>
<b>Pre-Flush</b>	
2% KCl Water	20 bbls
Density	8.4 ppg
<b>Mud Wash</b>	
Mud Clean I	1,000 gals
Density	8.4 ppg
<b>Spacer</b>	
2% KCl Water	20 bbls
Density	8.4 ppg
<b>2nd Lead Slurry</b>	
Premium Lite II + Add's	674 sacks
Density	11.2 ppg
Yield	3.15 cf/sack
<b>2nd Tail Slurry</b>	
50:50:2 (Poz:G:Gel) + Add's	100 sacks
Density	14.2 ppg
Yield	1.29 cf/sack
<b>Displacement</b>	
2% KCl Water	232 bbls
Density	8.4 ppg

Operator Name: Miller, Dyer & Co.,LLC  
 Well Name: Flat Rock Generic  
 Job Description: 2 STG L/S: 5 1/2" CSG x 8.75" O.H. x 12,400'  
 Date: September 25, 2007



Proposal No: 179969767A

## WELL DATA

### ANNULAR GEOMETRY

ANNULAR I.D. (In)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
8.921 CASING	3,300	3,300
8.750 HOLE	12,500	12,500

### SUSPENDED PIPES

DIAMETER (In)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
5.500	4.892	17	12,500	12,500

**STAGE: 1**      Float Collar set @      12,460 ft  
                  Mud Density      9.50 ppg  
                  Mud Type      Water Based  
                  Est. Static Temp.      236 ° F  
                  Est. Circ. Temp.      184 ° F

### VOLUME CALCULATIONS

2,500 ft    x    0.2526 cf/ft    with    25 % excess    =    787.0 cf  
 40 ft      x    0.1305 cf/ft    with    0 % excess    =    5.2 cf (inside pipe)  
**TOTAL SLURRY VOLUME** =    792.2 cf  
    =    141 bbls

**STAGE: 2**      Stage Collar set @      10,000 ft  
                  Mud Density      9.50 ppg  
                  Est. Static Temp.      205 ° F  
                  Est. Circ. Temp.      155 ° F

### VOLUME CALCULATIONS

500 ft    x    0.2691 cf/ft    with    0 % excess    =    134.5 cf  
 6,293 ft    x    0.2526 cf/ft    with    25 % excess    =    1986.9 cf  
 407 ft    x    0.2526 cf/ft    with    25 % excess    =    128.6 cf  
**TOTAL SLURRY VOLUME** =    2250.0 cf  
    =    401 bbls

Operator Name: Miller, Dyer & Co.,LLC  
Well Name: Flat Rock Generic  
Job Description: 2 STG L/S: 5 1/2" CSG x 8.75" O.H. x 12,400'  
Date: September 25, 2007



Proposal No: 179969767A

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**WELL DATA (Continued)**

VERIFY TUBULAR CONFIGURATION, PROCEDURE, AND PROPER DISPLACEMENT DEPTH WITH CUSTOMER REPRESENTATIVE PRIOR TO PUMPING.

BHST has been estimated from 1.25 deg/100 ft gradient with an 80 degree ambient rock temperature. The BHCT has been calculated using API standards. PLEASE CONFIRM ACTUAL BHST TO ENSURE ACCURATE CEMENT TESTING IS PERFORMED.



Operator Name: Miller, Dyer & Co.,LLC  
 Well Name: Flat Rock Generic  
 Job Description: 2 STG L/S: 5 1/2" CSG x 8.75" O.H. x 12,400'  
 Date: September 25, 2007



Proposal No: 179969767A

## FLUID SPECIFICATIONS

### STAGE NO.: 1

Spacer 20.0 bbls 2% KCl Water @ 8.43 ppg  
 Mud Wash 1,000.0 gals Mud Clean I @ 8.4 ppg  
 Spacer 20.0 bbls 2% KCl Water @ 8.43 ppg

FLUID	VOLUME CU-FT	VOLUME FACTOR	AMOUNT AND TYPE OF CEMENT
1st Tail Slurry	792	/ 1.6	= 480 sacks (50:50) Poz (Fly Ash):Class G Cement + 0.05 lbs/sack Static Free + 0.2% bwoc R-3 + 3% bwow Potassium Chloride + 0.25 lbs/sack Cello Flake + 0.9% bwoc FL-25 + 1 gals/100 sack FP-6L + 2% bwoc Bentonite + 35% bwoc Silica Flour + 0.2% bwoc BA-59 + 70.7% Fresh Water

Displacement 289.7 bbls Drilling Mud @ 9.5 ppg

### CEMENT PROPERTIES

#### SLURRY NO. 1

Slurry Weight (ppg)	14.40
Slurry Yield (cf/sack)	1.65
Amount of Mix Water (gps)	7.12
Amount of Mix Fluid (gps)	7.13
Estimated Pumping Time - 70 BC (HH:MM)	4:00

#### COMPRESSIVE STRENGTH

24 hrs @ 230 ° F (psi)	3000
------------------------	------

Operator Name: Miller, Dyer & Co.,LLC  
 Well Name: Flat Rock Generic  
 Job Description: 2 STG L/S: 5 1/2" CSG x 8.75" O.H. x 12,400'  
 Date: September 25, 2007



Proposal No: 179969767A

## FLUID SPECIFICATIONS (Continued)

### STAGE NO.: 2

Pre-Flush 20.0 bbls 2% KCl Water @ 8.43 ppg  
 Mud Wash 1,000.0 gals Mud Clean I @ 8.4 ppg  
 Spacer 20.0 bbls 2% KCl Water @ 8.43 ppg

FLUID	VOLUME CU-FT	VOLUME FACTOR	AMOUNT AND TYPE OF CEMENT
2nd Lead Slurry	2121	/ 3.1	= 674 sacks Premium Lite II Cement + 3 lbs/sack CSE + 0.3% bwoc R-3 + 3% bwow Potassium Chloride + 10% bwoc Bentonite + 0.2% bwoc Sodium Metasilicate + 183.6% Fresh Water
2nd Tail Slurry	129	/ 1.2	= 100 sacks (50:50) Poz (Fly Ash):Class G Cement + 0.05% bwoc Static Free + 0.1% bwoc R-3 + 3% bwow Potassium Chloride + 0.9% bwoc FL-25 + 1 gals/100 sack FP-6L + 2% bwoc Bentonite + 0.2% bwoc Sodium Metasilicate + 0.2% bwoc BA-59 + 57.3% Fresh Water

Displacement 232.5 bbls 2% KCl Water @ 8.43 ppg

### CEMENT PROPERTIES

	SLURRY NO. 1	SLURRY NO. 2
Slurry Weight (ppg)	11.20	14.20
Slurry Yield (cf/sack)	3.15	1.29
Amount of Mix Water (gps)	19.16	5.77
Amount of Mix Fluid (gps)	19.16	5.78
Estimated Pumping Time - 70 BC (HH:MM)	5:00	4:30
COMPRESSIVE STRENGTH		
24 hrs @ 200 ° F (psi)		1800

THICKENING TEST TIMES ARE ESTIMATES. SLURRIES ARE SUBJECT TO CHANGE BASED ON TEST RESULTS FROM THE REGION LABORATORY.

SLURRY VOLUMES ARE ESTIMATED AND ARE SUBJECT TO CHANGE BASED ON CALIPER LOG MEASUREMENTS.

PLEASE DOCUMENT HOW LONG WELL HAS BEEN CIRCULATED PRIOR TO CEMENTING AND INCLUDE ANY OTHER IMPORTANT ISSUES ON THE CEMENT REPORT.



## **CONDITIONS**

**BJ Services' performance of services and sale of materials is expressly conditioned upon the applicability of the Terms and Conditions contained in the current BJ Services Price Book. The Terms and Conditions include, among other things, an indemnity in favor of BJ Services from Customer for damage to the well bore, reservoir damage, loss of the hole, blowouts and loss of control of the well, even if caused by the negligence or other fault of BJ Services. The Terms and Conditions also limit the warranties provided by the BJ Services and the remedies to which Customer may be entitled in the event of a breach of warranty by BJ Services. For these reasons, we strongly recommend that you carefully review a copy of the Terms and Conditions. If you do not have a copy of the BJ Services Price Book, you can view the Terms and Conditions on BJ Services Web Site, [www.bjservices.com](http://www.bjservices.com). By requesting that BJ Services perform the services described herein, Customer acknowledges that such Terms and Conditions are applicable to the services. Further, by requesting the services, Customer warrants that its representative on the well location or other service site will be fully authorized to acknowledge such Terms and Conditions by executing a Field Receipt or other document presented by BJ Services containing such Terms and Conditions.**

**In the event that Customer and BJ Services have executed a Master Services Agreement covering the work to be performed, such Master Services Agreement shall govern in place of the Terms and Conditions. If you are interested in entering into Master Services Agreement with BJ Services, please contact us through the "Go BJ" button on the BJ Services Web Site.**

Operator: Miller, Dyer & Co.,LLC  
Well Name: Flat Rock Generic  
Date: September 25, 2007



Proposal No: 179969767A

## PRODUCT DESCRIPTIONS

### **BA-59**

A free flowing powder which provides improved bonding and minimizes gas migration. Provides expansion properties and zero free water to cement slurries.

### **Bentonite**

Commonly called gel, it is a clay material used as a cement extender and to control excessive free water.

### **CSE**

Compressive Strength Enhancer - Fumed Silica. An additive which contributes to low density, high compressive strength development of cement slurries at all temperature ranges. This material also controls free water

### **Calcium Chloride**

A powdered, flaked or pelletized material used to decrease thickening time and increase the rate of strength development.

### **Cello Flake**

Graded (3/8 to 3/4 inch) cellophane flakes used as a lost circulation material.

### **Class G Cement**

Intended for use as a basic cement from surface to 8000 ft as manufactured, or can be used with accelerators and retarders to cover a wide range of well depths and temperatures.

### **FL-25**

An all purpose salt-tolerant fluid loss additive that provides exceptional fluid loss control across a wide range of temperatures and salinity conditions and remedial cementing applications.

### **FP-6L**

A clear liquid that decreases foaming in slurries during mixing.

### **Kol Seal**

A granular, lightweight material (specific gravity of 1.3) used to control lost circulation in zones of natural and induced fractures, cavities and high permeability.

### **Mud Clean I**

A water-based non-acid solution used as a wash between the drilling mud and cement.

### **Potassium Chloride**

A granular salt used to reduce clay swelling caused by water-base stimulation fluids.

### **Poz (Fly Ash)**

A synthetic pozzolan, (primarily Silicon Dioxide). When blended with cement, Pozzolan can be used to create lightweight cement slurries used as either a filler slurry or a sulfate resistant completion cement.

### **Premium Lite II Cement**

Premium Lite II is a high-yield, cost effective lightweight cement blend that provides exceptional compressive strength and reduced permeability when mixed at low slurry weights.

Operator: Miller, Dyer & Co.,LLC  
Well Name: Flat Rock Generic  
Date: September 25, 2007



Proposal No: 179969767A

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**PRODUCT DESCRIPTIONS (Continued)**

**R-3**

A low temperature retarder used in a wide range of slurry formulations to extend the slurry thickening time.

**Silica Flour**

A very fine (200 mesh) Silica Flour for use in fracturing fluids and acids to help control fluid-loss in small micro fissures of naturally fractured formations. Normal loadings range from 10 to 50 pounds per 1,000 gallons of fluid. It is used in cementing to prevent strength retrogression at high temperatures.

**Sodium Metasilicate**

An accelerator used to decrease the thickening time of cement slurries.

**Static Free**

An anti-static additive used to prevent air entrainment due to agglomerated particles. Can be used in Cementing and Fracturing operations to aid in the flow of dry materials.

**Operator Name:** Miller, Dyer & Co.,LLC  
**Well Name:** Flat Rock Generic  
**Date:** September 25, 2007



**Proposal No:** 179969767A

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**End of Report**

**MILLER, DYER & CO. LLC**  
**Ute Tribal 3-32-14-20**  
**Section 32, T14S, R20E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 14 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 17 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 29.4 MILES TO ITS INTERSECTION WITH THE BUCK CANYON ROAD (COUNTY B ROAD 5460). EXIT RIGHT AND PROCEED IN A SOUTHWESTERLY DIRECTION ALONG COUNTY B ROAD 5460 APPROXIMATELY 3.2 MILES TO WILLOW CREEK. TURN RIGHT AND PROCEED IN A NORTHWESTERLY DIRECTION ALONG THE WILLOW CREEK ROAD (COUNTY B ROAD 5120) APPROXIMATELY 2.1 MILES TO ITS INTERSECTION WITH THE AGENCY DRAW ROAD (COUNTY B ROAD 5340). EXIT LEFT AND PROCEED IN A WESTERLY THEN SOUTHWESTERLY DIRECTION ALONG COUNTY B ROAD 5340 APPROXIMATELY 2.5 MILES TO ITS INTERSECTION WITH THE FLAT ROCK ROAD (COUNTY B ROAD 5450). EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG COUNTY B ROAD 5450 APPROXIMATELY 10.9 MILES TO THE FLAT ROCK MESA ROAD. PROCEED IN A SOUTHWESTERLY DIRECTION ALONG THE FLAT ROCK MESA ROAD APPROXIMATELY 2.8 MILES TO ITS INTERSECTION WITH THE BLACK KNOLLS ROAD. CONTINUE IN A WESTERLY THEN NORTHWESTERLY DIRECTION ALONG THE FLAT ROCK MESA ROAD APPROXIMATELY 2.9 MILES TO THE NORTH FORK OF THE FLAT ROCK MESA ROAD. EXIT RIGHT AND PROCEED IN A NORTHERLY DIRECTION ALONG NORTH FORK OF FLAT ROCK MESA ROAD APPROXIMATELY 0.3 MILES TO THE INTERSECTION OF AN EXISTING ROAD TO THE EAST. EXIT RIGHT AND PROCEED IN AN EASTERLY DIRECTION ALONG EXISTING ROAD APPROXIMATELY 0.1 MILES TO THE PROPOSED ACCESS ROAD. FOLLOW ROAD FLAGS IN A SOUTHEASTERLY DIRECTION APPROXIMATELY 80 FEET TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 85.2 MILES IN A SOUTHERLY DIRECTION.



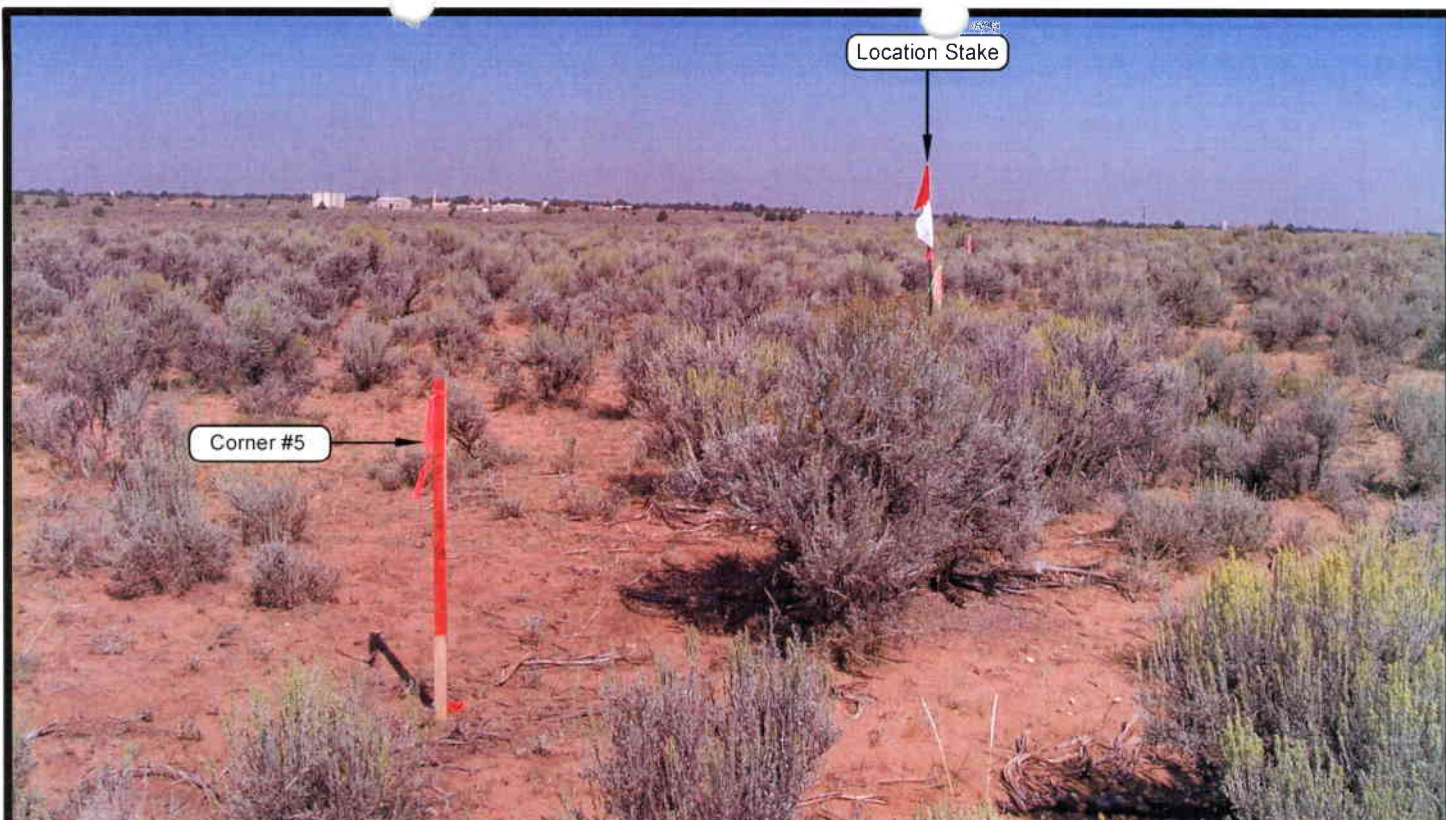


PHOTO VIEW: FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: NORTHERLY

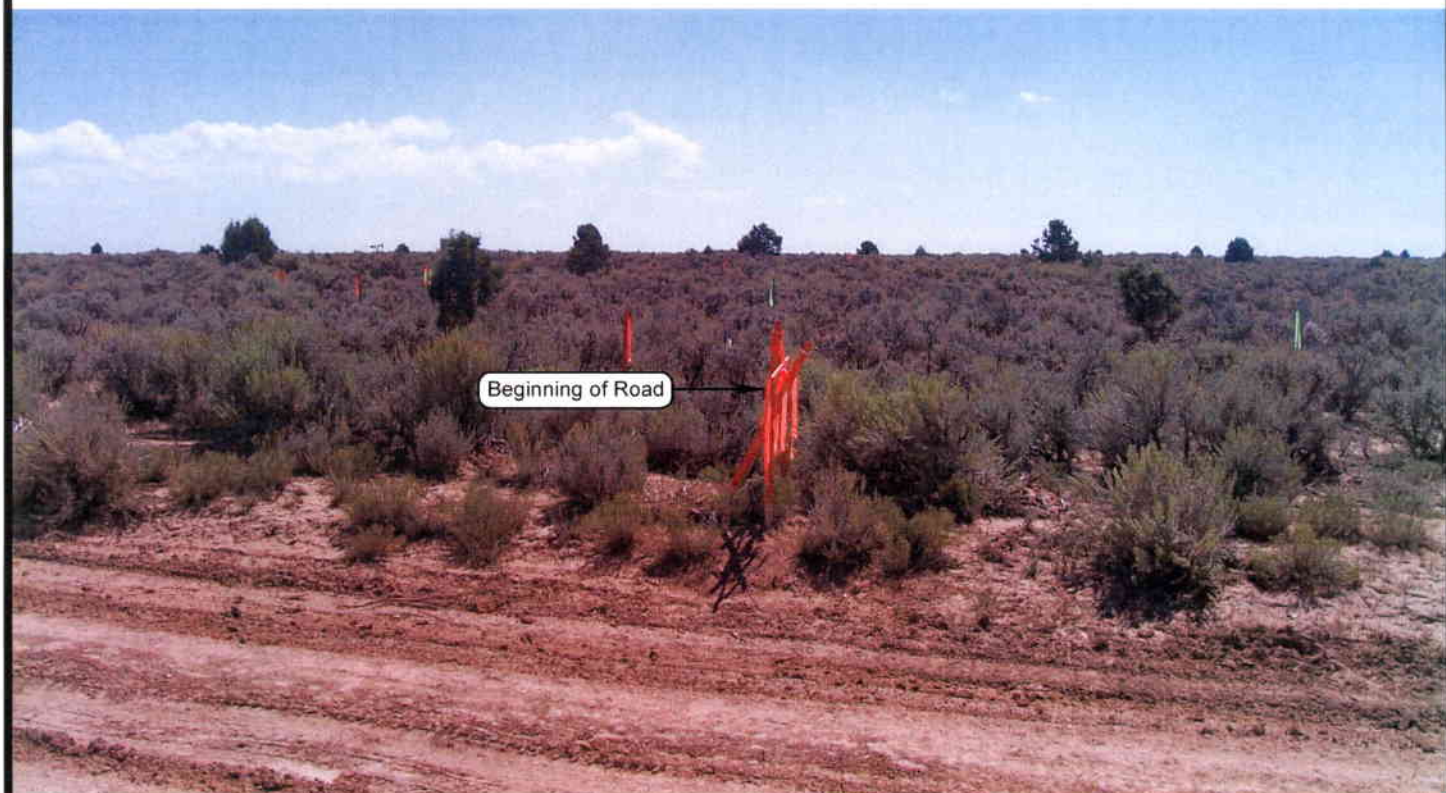


PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: SOUTHEASTERLY

## MILLER, DYER & CO. LLC

**Ute Tribal 3-32-14-20**  
**SECTION 32, T14S, R20E, S.L.B.&M.**  
**809' FNL & 1529' FWL**

### LOCATION PHOTOS

TAKEN BY: B.J.S.

DRAWN BY: M.W.W.

DATE TAKEN: 09-07-07

DATE DRAWN: 09-26-07

REVISED:

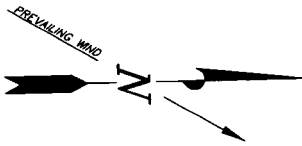
*Timberline* (435) 789-1365  
 Engineering & Land Surveying, Inc.  
 38 WEST 100 NORTH VERNAL, UTAH 84078

SHEET  
 1  
 OF 10

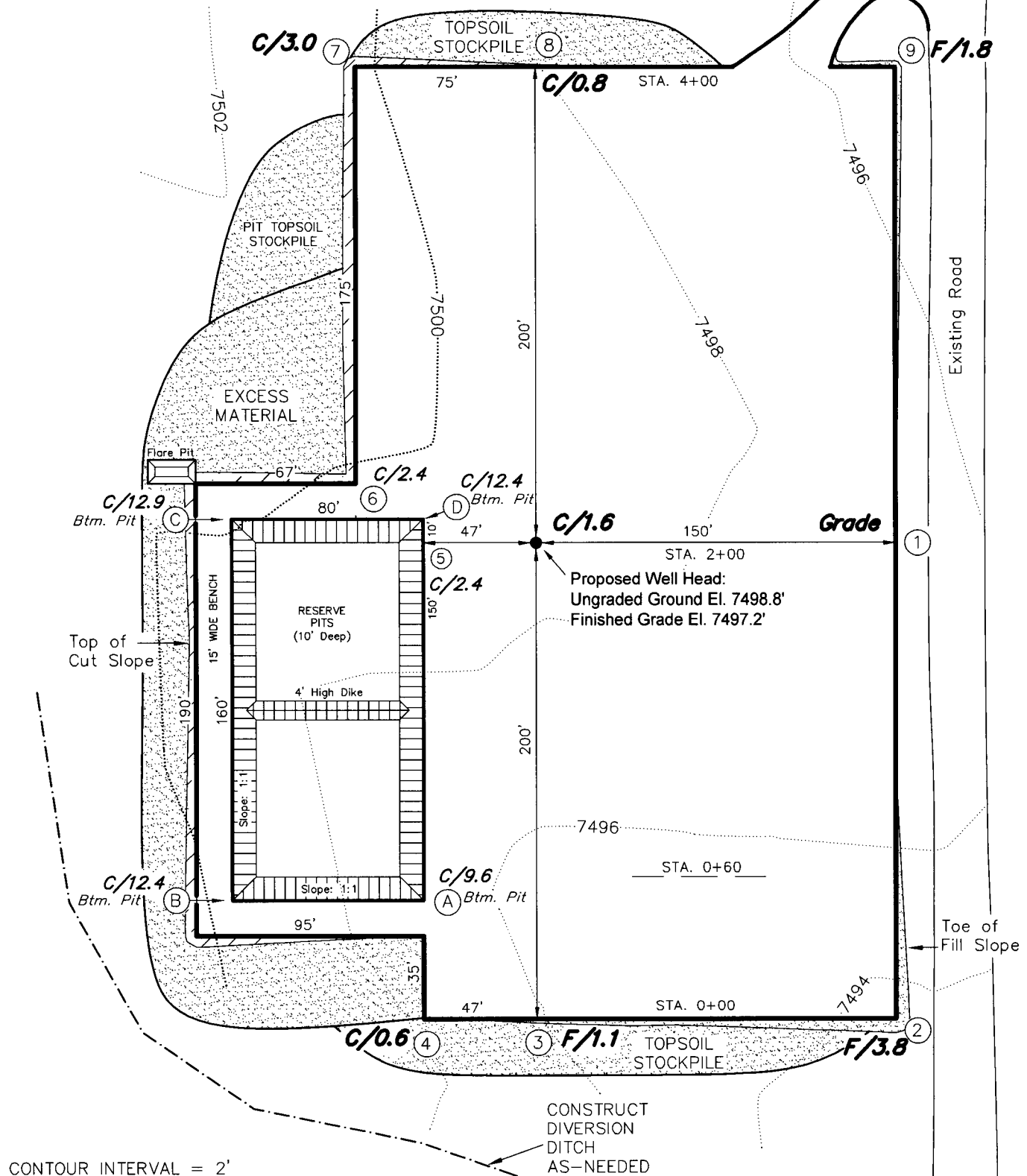


# MILLER, DYER & CO. LLC

## CUT SHEET UTE TRIBAL 3-32-14-20



PROPOSED ACCESS  
ROAD



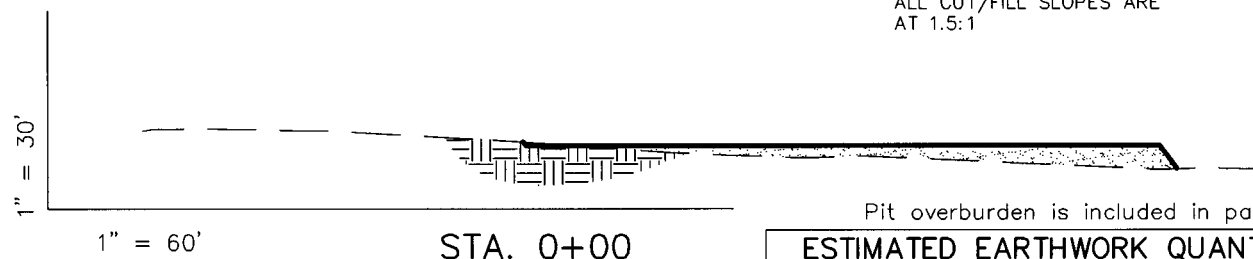
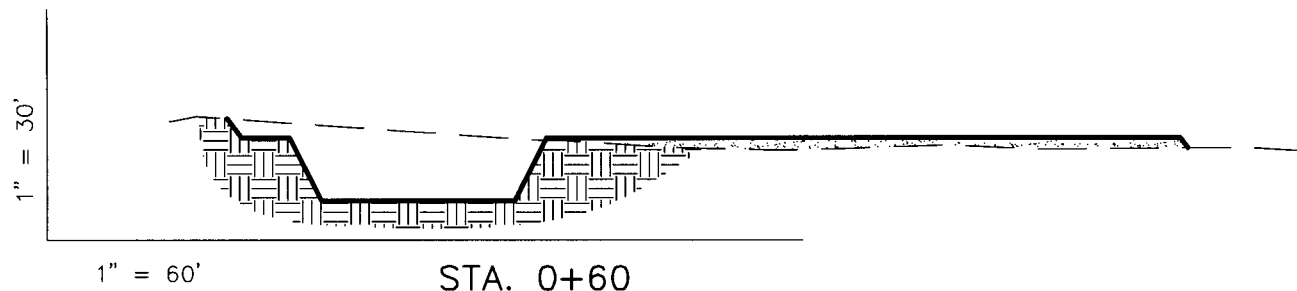
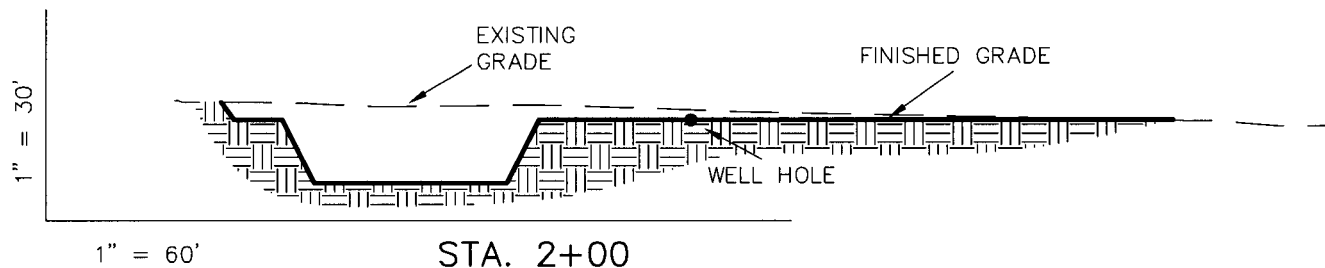
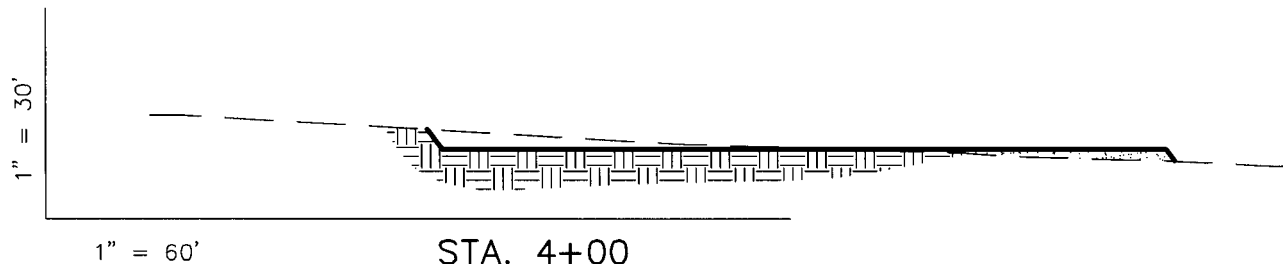
CONTOUR INTERVAL = 2'

CONSTRUCT  
DIVERSION  
DITCH  
AS-NEEDED

Section 32, T14S, R20E, S.L.B.&M.		Qtr/Qtr Location: NE NW	Footage Location: 809' FNL & 1529' FWL
Date Surveyed: 09-07-07	Date Drawn: 09-25-07	Date Last Revision:	<b>Timberline</b> (435) 789-1365
Surveyed By: B.J.S.	Drawn By: M.W.W.	Scale: 1" = 60'	Engineering & Land Surveying, Inc. 38 WEST 100 NORTH VERNAL, UTAH 84078
			<b>SHEET 3 OF 10</b>

# MILLER, DYER & CO.~LLC

## CROSS SECTIONS UTE TRIBAL 3-32-14-20



NOTE:  
UNLESS OTHERWISE NOTED  
ALL CUT/FILL SLOPES ARE  
AT 1.5:1

Pit overburden is included in pad cut.

### ESTIMATED EARTHWORK QUANTITIES (No shrink or swell adjustments have been used) (Expressed in Cubic Yards)

ITEM	CUT	FILL	6" TOPSOIL	EXCESS
PAD	2,200	2,200	Topsoil is not included in Pad Cut	0
PIT	3,850	0		3,850
TOTALS	6,050	2,200	1,880	3,850

Excess Material after Pit Rehabilitation = 0 Cu. Yds.

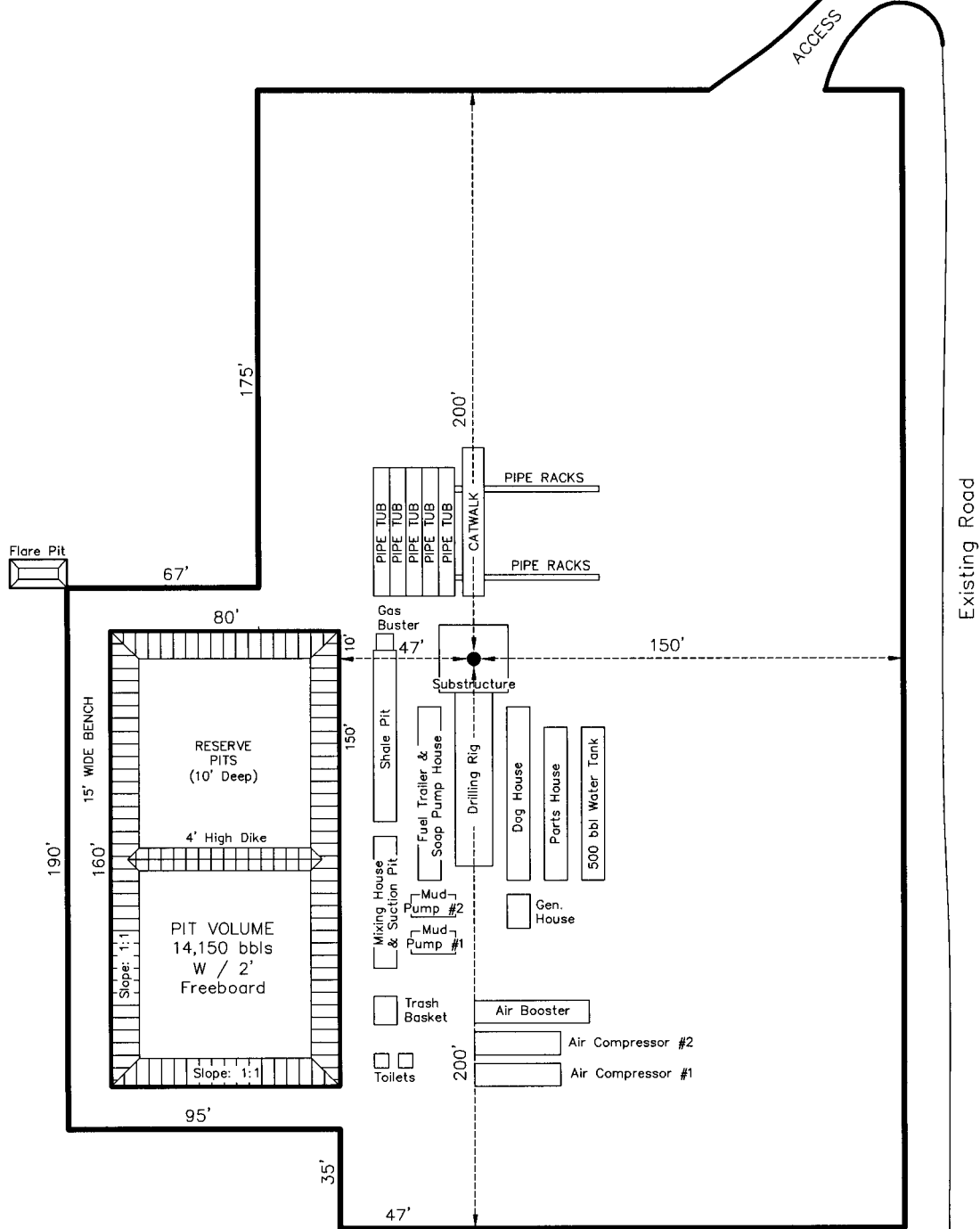
### REFERENCE POINTS

200' NORTHERLY = 7496.4'  
250' NORTHERLY = 7495.5'  
250' EASTERLY = 7497.0'  
300' EASTERLY = 7496.6'

Section 32, T14S, R20E, S.L.B.&M.		Qtr/Qtr Location: NE NW	Footage Location: 809' FNL & 1529' FWL
Date Surveyed: 09-07-07	Date Drawn: 09-25-07	Date Last Revision:	<b>Timberline</b> (435) 789-1365
Surveyed By: B.J.S.	Drawn By: M.W.W.	Scale: 1" = 60'	Engineering & Land Surveying, Inc. 38 WEST 100 NORTH VERNAL, UTAH 84078
			<b>SHEET 4 OF 10</b>

# MILLER, DYER & CO. LLC

## TYPICAL RIG LAYOUT UTE TRIBAL 3-32-14-20



Section 32, T14S, R20E, S.L.B.&M.

Qtr/Qtr Location: NE NW

Footage Location: 809' FNL & 1529' FWL

Date Surveyed:  
09-07-07

Date Drawn:  
09-25-07

Date Last Revision:

**Timberline**

(435) 789-1365

SHEET

Surveyed By: B.J.S.

Drawn By: M.W.W.

Scale: 1" = 60'

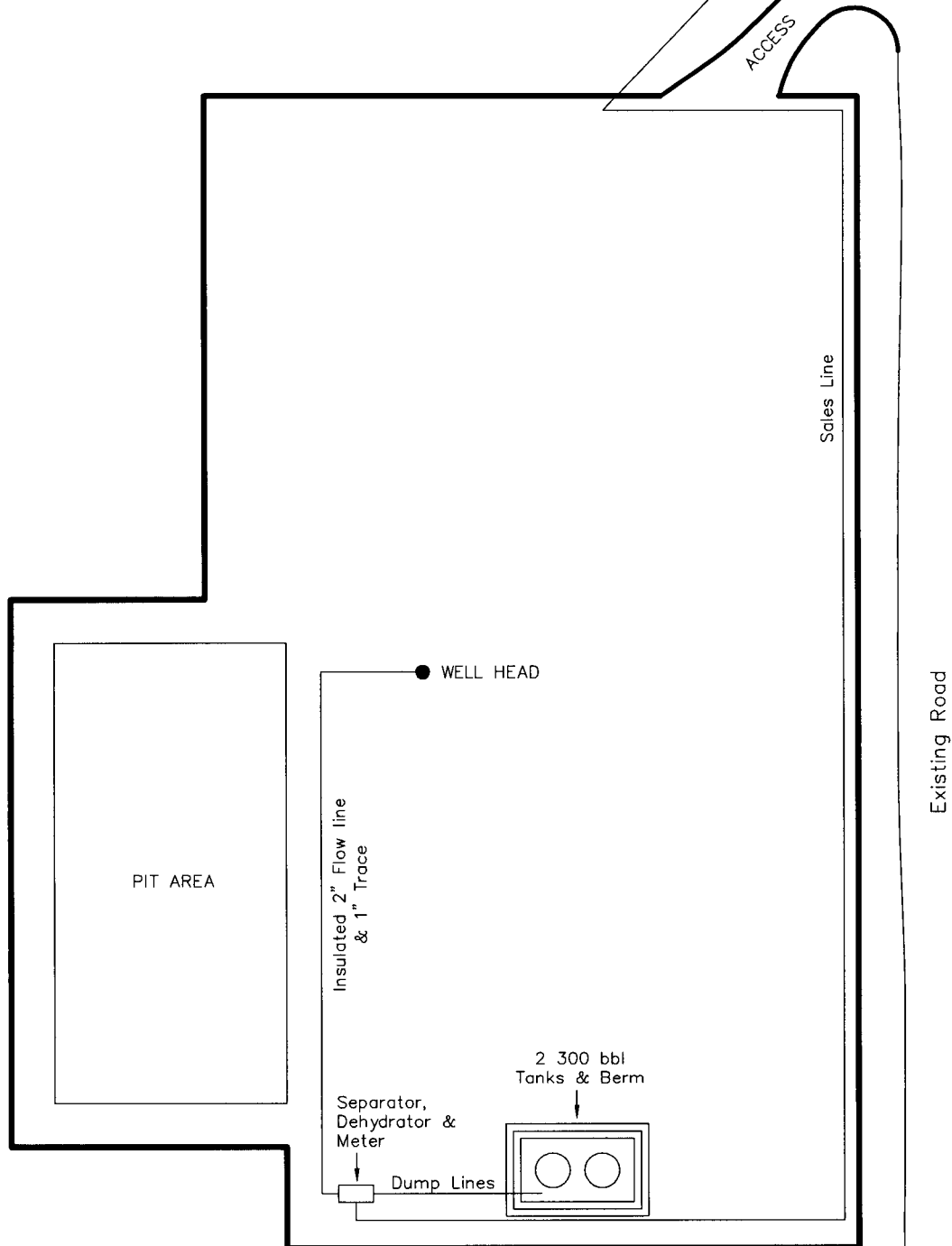
Engineering & Land Surveying, Inc.

38 WEST 100 NORTH VERNAL, UTAH 84078

5

OF 10

MILLER, DYER & CO. LLC  
TYPICAL PRODUCTION LAYOUT  
UTE TRIBAL 3-32-14-20



Section 32, T14S, R20E, S.L.B.&M.		Qtr/Qtr Location: NE NW	Footage Location: 809' FNL & 1529' FWL
Date Surveyed: 09-07-07	Date Drawn: 09-25-07	Date Last Revision:	<b>Timberline</b> (435) 789-1365
Surveyed By: B.J.S..	Drawn By: M.W.W.	Scale: 1" = 60'	Engineering & Land Surveying, Inc. 38 WEST 100 NORTH VERNAL, UTAH 84078
			<b>SHEET 6 OF 10</b>





Proposed Surface Location:  
Ute Tribal 3-32-14-20

#### LEGEND

- PROPOSED ACCESS ROAD
- = SUBJECT WELL
- = OTHER WELLS
- = EXISTING ROAD
- = EXISTING ROAD (TO BE IMPROVED)

(B-5460) = COUNTY ROAD CLASS & NUMBER

TOPOGRAPHIC MAP "A"

DATE SURVEYED: 09-07-07

DATE DRAWN: 09-26-07

SCALE: 1:150,000

DRAWN BY: M.W.V.

REVISED:

**MILLER, DYER & CO. LLC**

**Ute Tribal 3-32-14-20**  
**SECTION 32, T14S, R20E, S.L.B.&M.**  
**809' FNL & 1529' FWL**

**Timberline**

(435) 789-1365

Engineering & Land Surveying, Inc.

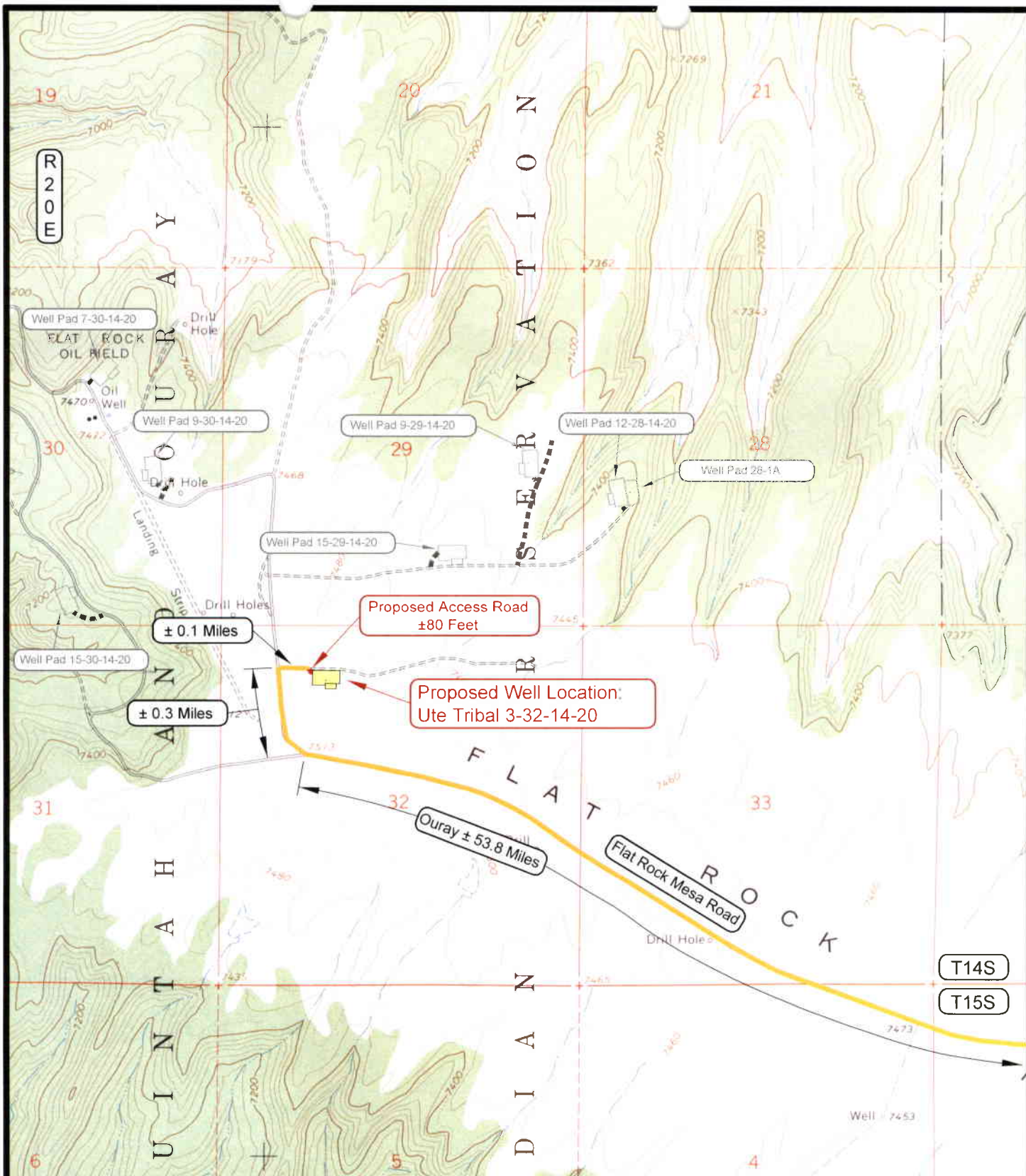
38 WEST 100 NORTH VERNAL, UTAH 84078

SHEET

7

OF 10





#### LEGEND

- PROPOSED ACCESS ROAD
- = SUBJECT WELL
- = SHARED ACCESS
- = EXISTING ROAD
- = EXISTING ROAD (TO BE IMPROVED)
- (B-5460) = COUNTY ROAD CLASS & NUMBER
- = LEASE LINE AND / OR PROPERTY LINE

#### TOPOGRAPHIC MAP "B"

SCALE: 1" = 2000'

DRAWN BY: M.W.W.

DATE SURVEYED: 09-07-07

DATE DRAWN: 09-26-07

REVISED:

#### MILLER, DYER & CO. LLC

**Ute Tribal 3-32-14-20**  
**SECTION 32, T14S, R20E, S.L.B.&M.**  
**809' FNL & 1529' FWL**

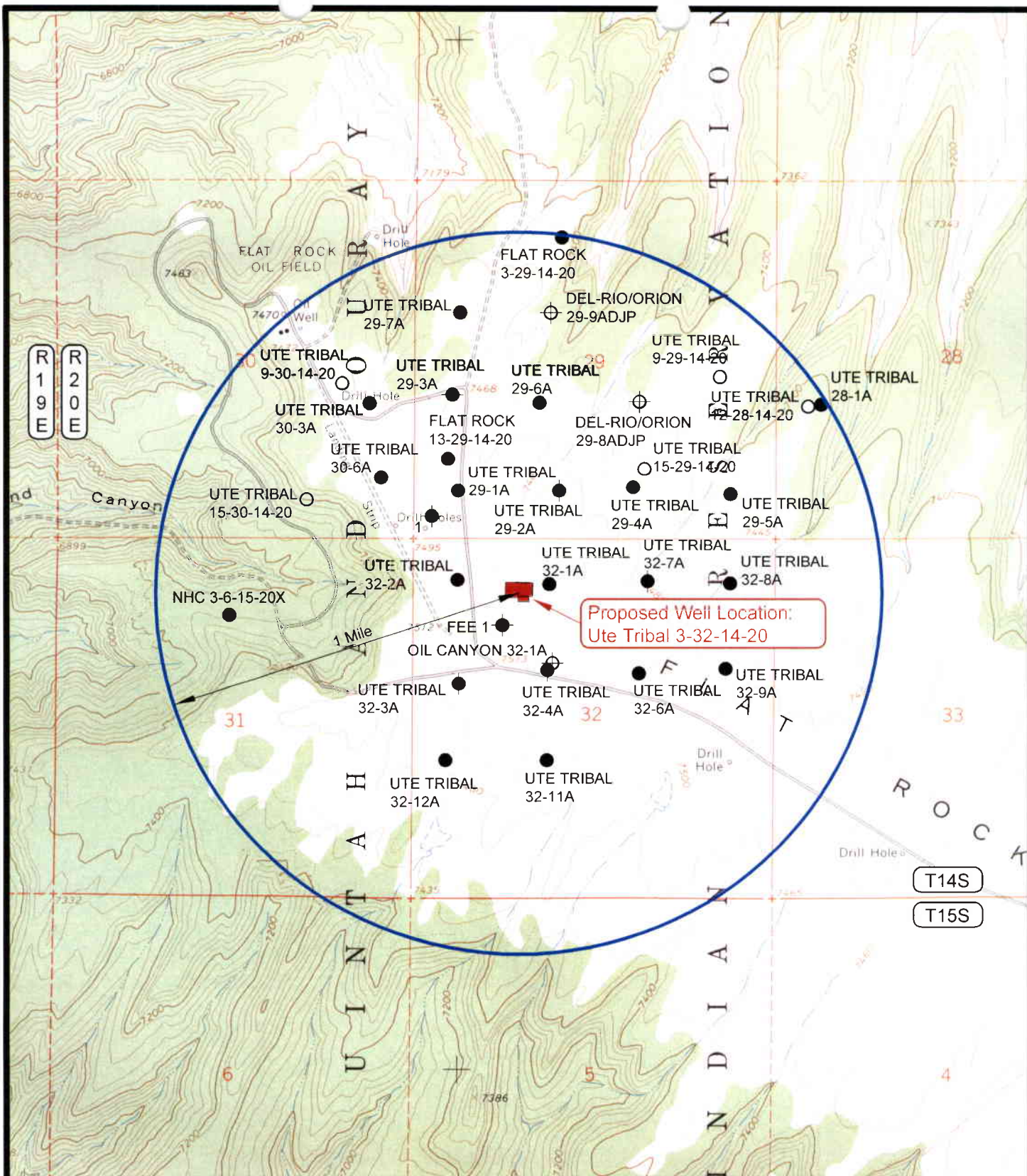
**Timberline**

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 38 WEST 100 NORTH VERNAL, UTAH 84078

(435) 789-1365

SHEET  
**8**  
 OF 10





#### LEGEND

- |                    |                                |
|--------------------|--------------------------------|
| ⊗ = DISPOSAL WELL  | ⊗ = WATER WELL                 |
| ● = PRODUCING WELL | ● = ABANDONED WELL             |
| ● = SHUT IN WELL   | ● = TEMPORARILY ABANDONED WELL |
| ○ = PROPOSED WELL  | ⊗ = ABANDONED LOCATION         |

TOPOGRAPHIC MAP "C"

DATE SURVEYED: 09-06-07

DATE DRAWN: 09-24-07

SCALE: 1" = 2000'

DRAWN BY: M.W.W.

REVISED:

**MILLER, DYER & CO. LLC**

**Ute Tribal 3-32-14-20**  
**SECTION 32, T14S, R20E, S.L.B.&M.**  
**809' FNL & 1529' FWL**

**Timberline**

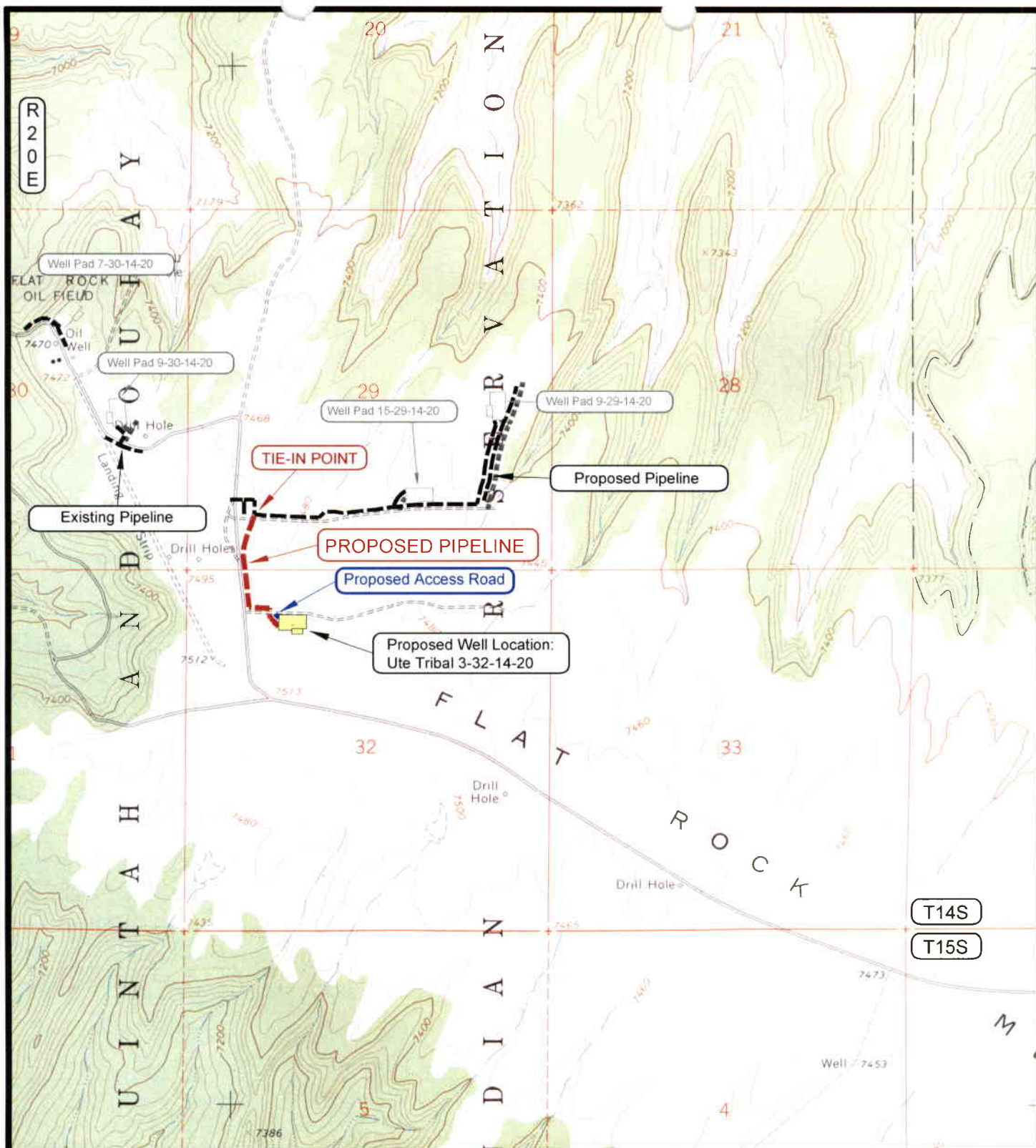
(435) 789-1365

Engineering & Land Surveying, Inc.

38 WEST 100 NORTH VERNAL, UTAH 84078

**SHEET**  
**9**  
**OF 10**





APPROXIMATE PIPELINE LENGTH =  $\pm 1,915$  FEET

#### LEGEND

- = PROPOSED PIPELINE
- = OTHER PIPELINE
- = PROPOSED ACCESS ROAD
- = SUBJECT WELL
- = OTHER WELLS
- = LEASE LINE AND / OR PROPERTY LINE

TOPOGRAPHIC MAP "D"

DATE SURVEYED: 09-07-07

DATE DRAWN: 09-26-07

SCALE: 1" = 2000'

DRAWN BY: M.W.W.

REVISED:

**MILLER, DYER & CO. LLC**

**Ute Tribal 3-32-14-20**  
**SECTION 32, T14S, R20E, S.L.B.&M.**  
**809' FNL & 1529' FWL**

**Timberline**

(435) 789-1365  
 Engineering & Land Surveying, Inc.  
 38 WEST 100 NORTH VERNAL, UTAH 84078

SHEET  
**10**  
 OF 10



**WORKSHEET**  
**APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 10/29/2007

API NO. ASSIGNED: 43-047-39741

WELL NAME: UTE TRIBAL 3-32-14-20

OPERATOR: MILLER, DYER & CO, LLC ( N2580 )

PHONE NUMBER: 303-292-0949

CONTACT: JEFF LANG

PROPOSED LOCATION:

NENW 32 140S 200E

SURFACE: 0809 FNL 1529 FWL

BOTTOM: 0809 FNL 1529 FWL

COUNTY: Uintah

LATITUDE: 39.56084 LONGITUDE: -109.7053

UTM SURF EASTINGS: 611226 NORTHINGS: 4379608

FIELD NAME: FLAT ROCK ( 600 )

INSPECT LOCATN BY: / /

**Tech Review**

**Initials**

**Date**

Engineering

*Red*

11/21/07

Geology

Surface

LEASE TYPE: 3 - State

LEASE NUMBER: ML-44317

PROPOSED FORMATION: WINGT

SURFACE OWNER: 2 - Indian

COALBED METHANE WELL? NO

RECEIVED AND/OR REVIEWED:

☒ Plat  
☒ Bond: Fed[] Ind[] Sta[] Fee[]  
(No. RLB0008085)  
☒ Potash (Y/N)  
☒ Oil Shale 190-5 (B) or 190-3 or 190-13  
☒ Water Permit  
(No. UTE)  
☒ RDCC Review (Y/N)  
(Date: \_\_\_\_\_)  
☒ Fee Surf Agreement (Y/N)  
☒ Intent to Commingle (Y/N)

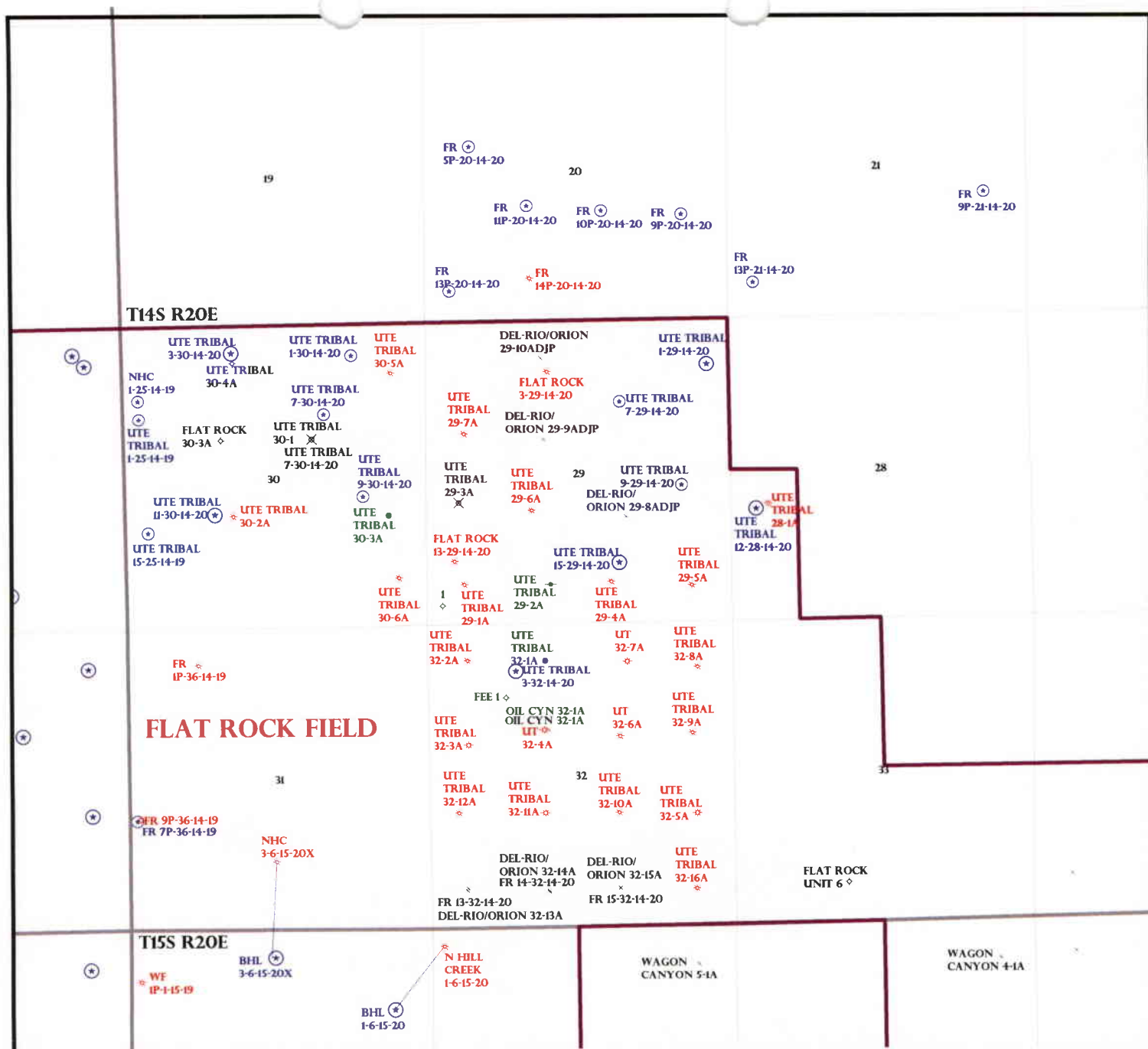
LOCATION AND SITING:

\_\_\_\_ R649-2-3.  
Unit: \_\_\_\_\_  
\_\_\_\_ R649-3-2. General  
Siting: 460 From Qtr/Qtr & 920' Between Wells  
☒ R649-3-3. Exception  
\_\_\_\_ Drilling Unit  
Board Cause No: \_\_\_\_\_  
Eff Date: \_\_\_\_\_  
Siting: \_\_\_\_\_  
\_\_\_\_ R649-3-11. Directional Drill

COMMENTS: \_\_\_\_\_

STIPULATIONS: \_\_\_\_\_

1- Sealed Approval  
2- Spacing Strip  
3- Surface Csg Cont Strip  
4- THIS WELL CANNOT BE COMPLETED IN THE  
INTERNAL EQUIVALENT TO THE PRODUCING ZONE  
IN THE UTE TRIBAL 32-1A WELL.  
5- STATEMENT OF BASIS



OPERATOR: MILLER, DYER & CO (N2580)

SEC: 29,30,32 T.14S R. 20E

FIELD: FLAT ROCK (600)

COUNTY: UTAH

SPACING: R649-3-3 / EXCEPTION LOCATION

**Field Status**

- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- PROPOSED
- STORAGE
- TERMINATED

**Unit Status**

- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PENDING
- PI OIL
- PP GAS
- PP GEOTHEML
- PP OIL
- SECONDARY
- TERMINATED

#### Wells Status

- GAS INJECTION
- GAS STORAGE
- LOCATION ABANDONED
- NEW LOCATION
- PLUGGED & ABANDONED
- PRODUCING GAS
- PRODUCING OIL
- SHUT-IN GAS
- SHUT-IN OIL
- TEMP. ABANDONED
- TEST WELL
- WATER INJECTION
- WATER SUPPLY
- WATER DISPOSAL
- DRILLING



OIL, GAS & MINING



PREPARED BY: DIANA MASON  
DATE: 30-OCTOBER-2007

# Application for Permit to Drill

## Statement of Basis

11/29/2007

Utah Division of Oil, Gas and Mining

Page 1

<b>APD No</b>	<b>API WellNo</b>	<b>Status</b>	<b>Well Type</b>	<b>Surf Ownr</b>	<b>CBM</b>
618	43-047-39741-00-00		GW	I	No
<b>Operator</b>	MILLER, DYER & CO, LLC	<b>Surface Owner-APD</b>			
<b>Well Name</b>	UTE TRIBAL 3-32-14-20	<b>Unit</b>			
<b>Field</b>	FLAT ROCK	<b>Type of Work</b>			
<b>Location</b>	NENW 32 14S 20E S 809 FNL 1529 FWL GPS Coord (UTM) 611226E 4379608N				

### Geologic Statement of Basis

Miller, Dyer & Co. proposes to set 40 feet of conductor pipe and 3,300 feet of surface casing, both cemented to the surface. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of Section 32. The base of the moderately saline water is estimated at 3,500 feet. The surface formation at the proposed location is the Green River Formation. The Green River Formation is made up of interbedded sandstones, limestones and shales. Fresh water can be expected to be found in the upper Green River. The proposed casing and cementing program should adequately protect any useable aquifers.

Brad Hill  
APD Evaluator

11/29/2007  
Date / Time

### Surface Statement of Basis

The Ute Indian Tribe is the surface owner at this location. The operator is responsible for obtaining any needed permits or rights of way before causing any surface disturbance or drilling.

Onsite Evaluator

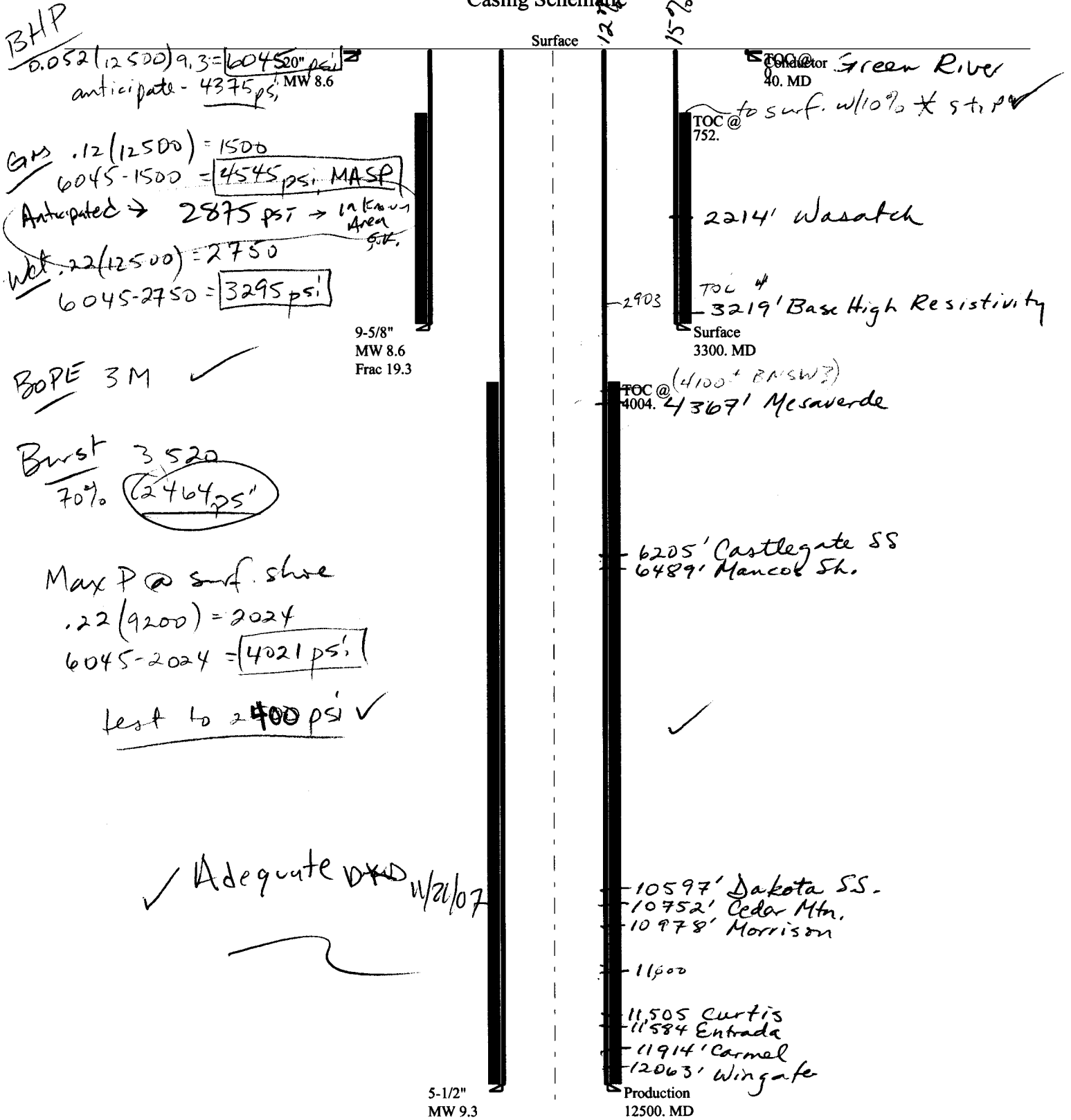
Date / Time

### Conditions of Approval / Application for Permit to Drill

<b>Category</b>	<b>Condition</b>
	None.

# 2007-11 Miller Dyer Ute Tribal 3-32-14-20

## Casing Schematic



Well name:	<b>2007-11 Miller Dyer Ute Tribal 3-32-14-20</b>		
Operator:	<b>Miller, Dyer &amp; Co., LLC</b>		
String type:	<b>Surface</b>	Project ID:	<b>43-047-39741</b>
Location:	<b>Uintah County</b>		

**Design parameters:**
**Collapse**

Mud weight: 8.600 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**
**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 75 °F  
Bottom hole temperature: 121 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 300 ft

Cement top: 752 ft

**Burst**

Max anticipated surface pressure: 2,574 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 3,300 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Tension is based on buoyed weight.  
Neutral point: 2,880 ft

**Non-directional string.**
**Re subsequent strings:**

Next setting depth: 12,500 ft  
Next mud weight: 9.300 ppg  
Next setting BHP: 6,039 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 3,300 ft  
Injection pressure: 3,300 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	3300	9.625	36.00	J-55	ST&C	3300	3300	8.796	1432.4
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	1474	2020	1.370	3300	3520	1.07	104	394	3.80 J

Prepared Helen Sadik-Macdonald  
by: Div of Oil, Gas & Minerals

Phone: 801-538-5357  
FAX: 801-359-3940

Date: November 15, 2007  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 3300 ft, a mud weight of 8.6 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

Well name:	<b>2007-11 Miller Dyer Ute Tribal 3-32-14-20</b>		
Operator:	<b>Miller, Dyer &amp; Co., LLC</b>		
String type:	<b>Production</b>	Project ID:	<b>43-047-39741</b>
Location:	<b>Uintah County</b>		

**Design parameters:**

**Collapse**

Mud weight: 9.300 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 75 °F  
Bottom hole temperature: 250 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,500 ft

Cement top: 4,004 ft

**Burst**

Max anticipated surface pressure: 3,289 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 6,039 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

**Non-directional string.**

Tension is based on buoyed weight.  
Neutral point: 10,737 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
3	1200	5.5	17.00	N-80	Buttress	1200	1200	4.767	156.6
2	9800	5.5	17.00	N-80	LT&C	11000	11000	4.767	1279.2
1	1500	5.5	17.00	P-110	LT&C	12500	12500	4.767	195.8

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
3	580	5353	9.233	3553	7740	2.18	183	397	2.17 B
2	5314	6290	1.184	5709	7740	1.36	162	348	2.15 J
1	6039	7480	1.239	6039	10640	1.76	-4	445	-99.54 J

Prepared Helen Sadik-Macdonald  
by: Div of Oil, Gas & Minerals

Phone: 801-538-5357  
FAX: 801-359-3940

Date: November 15, 2007  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 12500 ft, a mud weight of 9.3 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

Well name:	<b>2007-11 Miller Dyer Ute Tribal 3-32-14-20</b>		
Operator:	<b>Miller, Dyer &amp; Co., LLC</b>		
String type:	Conductor	Project ID:	43-047-39741
Location:	Uintah County		

**Design parameters:**

**Collapse**

Mud weight: 8.600 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 75 °F  
Bottom hole temperature: 76 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 300 ft

Cement top: 1 ft

**Burst**

Max anticipated surface pressure: 13 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 18 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

**Non-directional string.**

Tension is based on buoyed weight.  
Neutral point: 35 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	40	20	94.00	H-40	ST&C	40	40	18.999	79.8
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	18	520	29.099	18	1530	85.62	3	581	99.99 J

Prepared Helen Sadik-Macdonald  
by: Div of Oil, Gas & Minerals

Phone: 801-538-5357  
FAX: 801-359-3940

Date: November 15, 2007  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 40 ft, a mud weight of 8.6 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

**MILLER**  
**MDYER & CO. LLC**

475 Seventeenth Street, Suite 1200  
Denver, Colorado 80202  
P: 303-292-0949  
F: 303-292-3901

October 22, 2007

Diana Mason  
Utah Division of Oil, Gas & Mining  
P.O. Box 145801  
Salt Lake City, UT 84114-5801

RE: Exception Location to Drill  
**Ute Tribal 3-32-14-20**  
Section 32, T14S R20E  
ML-44317  
Uintah County, Utah

Dear Ms Mason:

Miller, Dyer & Co. LLC, as Operator, is proposing to drill and has made application with the Division of Oil, Gas and Mining ("DOGM") for a permit to drill the following well:

**Ute Tribal 3-32-14-20**

Location: 809' FNL, 1529' FWL, (NENW) Section 32, T14S R20E, Uintah County, Utah Lease: U-44317;  
Record Title Owner – Chicago Energy Associates, LLC  
Designated Operator: Miller, Dyer & Co. LLC (Designation on file with DOGM & SITLA)

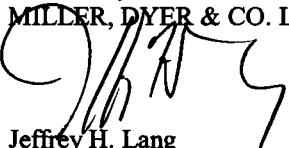
*Pursuant to Rule R649-3-3, Miller, Dyer & Co. LLC is making application and seeking DOGM's administrative authority to grant an exception to the locating and siting requirements for this well.*

The Flat Rock #3-32-14-20 well is approximately 251' West of the 200' drilling tolerance from the center of the 40-acre drilling unit designated as the NENW of Section 32. The present location of this well as surveyed and staked allows optimal access to the Entrada Formation as observed by our seismic survey.

Chicago Energy Associates, LLC is the owner within a 460-foot radius of the proposed well location and is the owner of the directly offsetting drilling unit being crowded by the proposed well location.

Miller-Dyer and Chicago Energy Associates, LLC respectfully requests an administrative approval by the division of an exception location for the well referenced above.

Yours truly,  
MILLER, DYER & CO. LLC

  
Jeffrey H. Lang  
Vice President of Operations

**RECEIVED**  
**OCT 29 2007**  
**DIV. OF OIL, GAS & MINING**





JON M. HUNTSMAN, JR.  
Governor

GARY R. HERBERT  
Lieutenant Governor

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Oil Gas and Mining

JOHN R. BAZA  
Division Director

November 21, 2007

Miller, Dyer & Co., LLC  
475 17th St., Ste. 1200  
Denver, CO 80202

Re: Ute Tribal 3-32-14-20 Well, 809' FNL, 1529' FWL, NE NW, Sec. 32, T. 14 South,  
R. 20 East, Uintah County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. § 40-6-1 *et seq.*, Utah Administrative Code R649-3-1 *et seq.*, and the attached Conditions of Approval, approval to drill the referenced well is granted.

Appropriate information has been submitted to DOGM and administrative approval of the requested exception location is hereby granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-047-39741.

Sincerely,

Gil Hunt  
Associate Director

pab  
Enclosures

cc: Uintah County Assessor  
Bureau of Land Management Vernal Office  
SITLA



Operator: Miller, Dyer & Co., LLC  
Well Name & Number Ute Tribal 3-32-14-20  
API Number: 43-047-39741  
Lease: ML-44317

Location: NE NW                      Sec. 32                      T. 14 South                      R. 20 East

### Conditions of Approval

#### 1. General

Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

#### 2. Notification Requirements

The operator is required to notify the Division of Oil, Gas and Mining of the following action during drilling of this well:

- 24 hours prior to cementing or testing casing – contact Dan Jarvis
- 24 hours prior to testing blowout prevention equipment – contact Dan Jarvis
- 24 hours prior to spudding the well – contact Carol Daniels
- Within 24 hours of any emergency changes made to the approved drilling program – contact Dustin Doucet
- Prior to commencing operations to plug and abandon the well – contact Dan Jarvis

The operator is required to get approval from the Division of Oil, Gas and Mining before performing any of the following actions during the drilling of this well:

- Plugging and abandonment or significant plug back of this well – contact Dustin Doucet
- Any changes to the approved drilling plan – contact Dustin Doucet

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voice mail message if the person is not available to take the call):

- Dan Jarvis at:                      (801) 538-5338 office                      (801) 942-0873 home
- Carol Daniels at:                      (801) 538-5284 office
- Dustin Doucet at:                      (801) 538-5281 office                      (801) 733-0983 home

#### 3. Reporting Requirements

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

4. Compliance with the State of Utah Antiquities Act forbids disturbance of archeological, historical, or paleontological remains. Should archeological, historical or paleontological remains be encountered during your operations, you are required to immediately suspend all operations and immediately inform the Trust Lands Administration and the Division of State History of the discovery of such remains.
5. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis. (Copy Attached)
6. This well cannot be completed in the interval equivalent to the producing zone in the Ute Tribal 32-1A
7. State approval of this well does not supersede the required federal approval, which must be obtained prior to drilling.
8. This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the "Board"). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing a Request for Agency Action with the Board.
9. Surface casing shall be cemented to the surface.

Division of Oil, Gas and Mining  
**OPERATOR CHANGE WORKSHEET**

**ROUTING**

1. DJJ
2. CDW

**X - Change of Operator (Well Sold)**

Operator Name Change/Merger

The operator of the well(s) listed below has changed, effective:

**6/1/2008**

**FROM: (Old Operator):**

N2580-Miller, Dyer & Co, LLC  
 475 17th St, Suite 1200  
 Denver, CO 80202

Phone: 1 (303) 292-0949

**TO: ( New Operator):**

N2680-Whiting Oil & Gas Company  
 1700 Broadway, Suite 2300  
 Denver, CO 80290

Phone: 1 (303) 837-1661

CA No.				Unit:				
WELL NAME	SEC TWN RNG			API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
SEE ATTACHED LIST								

**OPERATOR CHANGES DOCUMENTATION**

Enter date after each listed item is completed

- (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 6/5/2008
- (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 6/5/2008
- The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 7/16/2008
- a. Is the new operator registered in the State of Utah: Business Number: 5890476-0143
- b. If **NO**, the operator was contacted on: 7/16/2008
- a. (R649-9-2)Waste Management Plan has been received on: REQUESTED 7/16/2008
- b. Inspections of LA PA state/fee well sites complete on: done
- c. Reports current for Production/Disposition & Sundries on: ok
- Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM not yet BIA not yet
- Federal and Indian Units:**  
The BLM or BIA has approved the successor of unit operator for wells listed on: n/a
- Federal and Indian Communization Agreements ("CA"):**  
The BLM or BIA has approved the operator for all wells listed within a CA on: n/a
- Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: n/a

**DATA ENTRY:**

- Changes entered in the **Oil and Gas Database** on: 7/16/2008
- Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 7/16/2008
- Bond information entered in RBDMS on: 7/16/2008
- Fee/State wells attached to bond in RBDMS on: 7/16/2008
- Injection Projects to new operator in RBDMS on: n/a
- Receipt of Acceptance of Drilling Procedures for APD/New on: 7/16/2008

**BOND VERIFICATION:**

- Federal well(s) covered by Bond Number: UTB000148
- Indian well(s) covered by Bond Number: RLB0011681
- a. (R649-3-1) The **NEW** operator of any state/fee well(s) listed covered by Bond Number RLB0004585
- b. The **FORMER** operator has requested a release of liability from their bond on: not yet

**LEASE INTEREST OWNER NOTIFICATION:**

- (R649-2-10) The **NEW** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: n/a

**COMMENTS:**

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

**Request to Transfer Application or Permit to Drill**

(This form should accompany a Sundry Notice, Form 9, requesting APD transfer)

Well name:	UTE TRIBAL 3-32-14-20
API number:	4304739741
Location:	Qtr-Qtr: NENW Section: 32 Township: 14S Range: 20E
Company that filed original application:	MILLER, DYER & CO., LLC
Date original permit was issued:	11/21/2007
Company that permit was issued to:	MILLER, DYER & CO., LLC

Check one	Desired Action:
<input type="checkbox"/>	Transfer pending (unapproved) Application for Permit to Drill to new operator
<input type="checkbox"/>	The undersigned as owner with legal rights to drill on the property, hereby verifies that the information as submitted in the pending Application for Permit to Drill, remains valid and does not require revision. The new owner of the application accepts and agrees to the information and procedures as stated in the application.
<input checked="" type="checkbox"/>	Transfer approved Application for Permit to Drill to new operator
<input type="checkbox"/>	The undersigned as owner with legal rights to drill on the property as permitted, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision.

Following is a checklist of some items related to the application, which should be verified.	Yes	No
If located on private land, has the ownership changed?		<input checked="" type="checkbox"/>
<input type="checkbox"/> If so, has the surface agreement been updated?		
Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?		<input checked="" type="checkbox"/>
Have there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?		<input checked="" type="checkbox"/>
Have there been any changes to the access route including ownership or right-of-way, which could affect the proposed location?		<input checked="" type="checkbox"/>
Has the approved source of water for drilling changed?		<input checked="" type="checkbox"/>
Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?		<input checked="" type="checkbox"/>
Is bonding still in place, which covers this proposed well? Bond No. <u>RLB0011676</u>	<input checked="" type="checkbox"/>	

Any desired or necessary changes to either a pending or approved Application for Permit to Drill that is being transferred, should be filed on a Sundry Notice, Form 9, or amended Application for Permit to Drill, Form 3, as appropriate, with necessary supporting information as required.

Name (please print) Rick Ross Title VP OPERATIONS  
Signature [Signature] Date 6/1/08  
Representing (company name) WHITING OIL AND GAS CORPORATION

The person signing this form must have legal authority to represent the company or individual(s) to be listed as the new operator on the Application for Permit to Drill.

(3/2004)

**RECEIVED**

**JUN 02 2008**

DIV. OF OIL, GAS & MINING

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL ☐ GAS WELL ☐ OTHER \_\_\_\_\_

2. NAME OF OPERATOR:  
Whiting Oil And Gas Company N2680

3. ADDRESS OF OPERATOR: 1700 Broadway, Ste 2300 CITY Denver STATE CO ZIP 80290 PHONE NUMBER: (303) 837-1661

4. LOCATION OF WELL

FOOTAGES AT SURFACE:

COUNTY:

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE:

UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input checked="" type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Effective 6/1/2008, please change the Operator of record from Miller, Dyer & Co., LLC to Whiting Oil and Gas Corporation. Whiting Oil and Gas Corporation Utah State bond is #RLB0004585 or Utah BLM Bond #UTB-000148. See attached well list.

RLB0004585

BIA RLB00011681

Whiting Oil and Gas Corporation  
1700 Broadway, Suite 2300  
Denver, CO 80290  
(303) 837-1661

Miller, Dyer & Co., LLC  
475 17th Street, Suite 1200  
Denver, CO 80202

N2580

RECEIVED

JUN 05 2008

DIV. OF OIL, GAS & MINING

NAME (PLEASE PRINT) JEFFREY H. LANG

TITLE UP OPERATIONS

SIGNATURE [Signature]

DATE 6/3/08

Whiting Oil and Gas Corporation

NAME (PLEASE PRINT) Rick Ross

TITLE UP OPERATIONS

SIGNATURE [Signature]

DATE 6/3/08

(This space for State use only)

APPROVED 7/16/2008

Earlene Russell  
Division of Oil, Gas and Mining  
Earlene Russell, Engineering Technician

well_name	sec	tpw	rng	api	entity	lease	well	stat 2	flag
UTE TRIBAL 32-5A	32	140S	200E	4304710577	12655	State	GW	S	
UTE TRIBAL 30-3A	30	140S	200E	4304710913	12395	Federal	OW	P	
UTE TRIBAL 30-5A	30	140S	200E	4304720502	12654	Federal	GW	S	
UTE TRIBAL 30-2A	30	140S	200E	4304730641	8112	Federal	GW	P	
UTE TRIBAL 29-1A	29	140S	200E	4304730981	8118	Federal	GW	P	
UTE TRIBAL 32-1A	32	140S	200E	4304732758	12064	State	OW	P	
UTE TRIBAL 29-2A	29	140S	200E	4304732945	8118	Federal	OW	P	
UTE TRIBAL 32-2A	32	140S	200E	4304733333	12658	State	GW	P	
UTE TRIBAL 32-3A	32	140S	200E	4304733334	12657	State	GW	S	
UTE TRIBAL 32-4A	32	140S	200E	4304733335	12656	State	GW	P	
UTE TRIBAL 32-6A	32	140S	200E	4304733337	12662	State	GW	P	
CHIMNEY ROCK 32-11	32	130S	210E	4304733445	12984	State	GW	S	
CHIMNEY ROCK 32-13	32	130S	210E	4304733447	12985	State	GW	P	
CHIMNEY ROCK 32-14	32	130S	210E	4304733448	12983	State	GW	P	
UTE TRIBAL 32-8A	32	140S	200E	4304733557	13066	State	GW	P	
UTE TRIBAL 32-12A	32	140S	200E	4304733558	13064	State	GW	P	
UTE TRIBAL 28-1A	28	140S	200E	4304733595	13059	Federal	GW	S	
UTE TRIBAL 30-6A	30	140S	200E	4304733596	13062	Federal	GW	P	
UTE TRIBAL 29-4A	29	140S	200E	4304733616	13060	Federal	GW	P	
UTE TRIBAL 29-5A	29	140S	200E	4304733617	13061	Federal	GW	P	
UTE TRIBAL 32-7A	32	140S	200E	4304733618	13065	State	GW	S	
UTE TRIBAL 32-9A	32	140S	200E	4304733619	13067	State	GW	P	
UTE TRIBAL 32-10A	32	140S	200E	4304733620	13054	State	GW	P	
UTE TRIBAL 32-11A	32	140S	200E	4304733621	13058	State	GW	S	
UTE TRIBAL 32-16A	32	140S	200E	4304734098	13449	State	GW	P	
UTE TRIBAL 29-6A	29	140S	200E	4304734102	13443	Federal	GW	P	
UTE TRIBAL 29-7A	29	140S	200E	4304734103	13444	Federal	GW	P	
UTE TRIBAL 10-2-15-20	02	150S	200E	4304735625	14167	State	GW	P	
FLAT ROCK 13-29-14-20	29	140S	200E	4304736778	15065	Federal	GW	P	
FLAT ROCK 3-29-14-20	29	140S	200E	4304736795	15099	Federal	GW	P	
UTE TRIBAL 6-16-14-20	16	140S	200E	4304738506	16320	State	GW	P	
UTE TRIBAL 15-25-14-19	30	140S	200E	4304739052	16169	Indian	GW	P	C
UTE TRIBAL 1-25-14-19	30	140S	200E	4304739053		Indian	GW	APD	
UTE TRIBAL 1-30-14-20	30	140S	200E	4304739665		Federal	GW	APD	
UTE TRIBAL 9-30-14-20	30	140S	200E	4304739666		Federal	GW	APD	
UTE TRIBAL 7-30-14-20	30	140S	200E	4304739667		Federal	GW	APD	
UTE TRIBAL 7-29-14-20	29	140S	200E	4304739668		Federal	GW	APD	
UTE TRIBAL 9-29-14-20	29	140S	200E	4304739669		Federal	GW	APD	
UTE TRIBAL 12-28-14-20	28	140S	200E	4304739736		Federal	GW	APD	
UTE TRIBAL 1-29-14-20	29	140S	200E	4304739737		Federal	GW	APD	
UTE TRIBAL 15-29-14-20	29	140S	200E	4304739738		Federal	GW	APD	
UTE TRIBAL 3-30-14-20	30	140S	200E	4304739739		Federal	GW	APD	
UTE TRIBAL 11-30-14-20	30	140S	200E	4304739740		Federal	GW	APD	
UTE TRIBAL 3-32-14-20	32	140S	200E	4304739741		State	GW	APD	
UTE TRIBAL 15-30-14-20	30	140S	200E	4304739942		Federal	GW	APD	

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER:  
ML-44317

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:  
Ute Indian Tribe

7. UNIT or CA AGREEMENT NAME  
N/A

1. TYPE OF WELL OIL WELL ☐ GAS WELL ☒ OTHER \_\_\_\_\_

8. WELL NAME and NUMBER:  
Ute Tribal 3-32-14-20

2. NAME OF OPERATOR:  
Whiting Oil and Gas Corporation

9. API NUMBER:  
43-047-397 41

3. ADDRESS OF OPERATOR:  
1700 Bdwy, STE 2300 CITY Denver STATE CO ZIP 80290-2300 PHONE NUMBER: (303) 390-4095

10. FIELD AND POOL, OR WILDCAT:  
Flat Rock

4. LOCATION OF WELL:

FOOTAGES AT SURFACE: 809' FNL & 1529' FWL

COUNTY: Uintah

QTRQTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENW 32 14S 20E SLPM

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: <u>Spring 2009</u>	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: <u>Permit Extension Request</u>
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Whiting Oil and Gas Corporation is requesting to extend the drilling permit on the subject well for an additional year.

Approved by the  
Utah Division of  
Oil, Gas and Mining

Date: 01-07-09  
By: [Signature]

NAME (PLEASE PRINT) Scott M. Webb

TITLE Regulatory Coordinator

SIGNATURE [Signature]

DATE 1/2/2009

(This space for State use only)

COPY SENT TO OPERATOR

Date: 1.8.2009

(5/2009)

Initials: KS

(See Instructions on Reverse Side)



**Application for Permit to Drill  
Request for Permit Extension  
Validation**

(this form should accompany the Sundry Notice requesting permit extension)

API: 43-047-39741  
Well Name: Ute Tribal 3-32-14-20  
Location: NENW Section 32-T14S-R20E SLPM.  
Company Permit Issued to: Miller Dyer & CO LLC  
Date Original Permit Issued: 11/21/07

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision.

Following is a checklist of some items related to the application, which should be verified.

If located on private land, has the ownership changed, if so, has the surface agreement been updated? Yes ☐ No ☐

Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? Yes ☐ No ☒

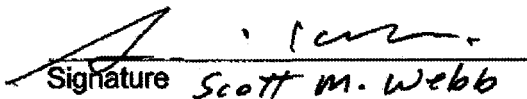
Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? Yes ☐ No ☒

Have there been any changes to the access route including ownership, or right-of-way, which could affect the proposed location? Yes ☐ No ☒

Has the approved source of water for drilling changed? Yes ☐ No ☒

Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? Yes ☐ No ☒

Is bonding still in place, which covers this proposed well? Yes ☒ No ☐

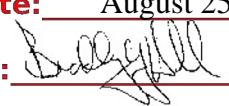
  
Signature Scott M. Webb

1/2/2009

Date

Title: Regulatory Coordinator

Representing: Whiting Oil and Gas Corporation

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-44317			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE			
<b>2. NAME OF OPERATOR:</b> WHITING OIL & GAS CORPORATION		<b>7. UNIT or CA AGREEMENT NAME:</b>			
<b>3. ADDRESS OF OPERATOR:</b> 1700 Broadway, Suite 2300 , Denver, CO, 80290 2300		<b>8. WELL NAME and NUMBER:</b> UTE TRIBAL 3-32-14-20			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0809 FNL 1529 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 32 Township: 14.0S Range: 20.0E Meridian: S		<b>9. API NUMBER:</b> 43047397410000			
<b>PHONE NUMBER:</b> 303 390-4095 Ext		<b>9. FIELD and POOL or WILDCAT:</b> FLAT ROCK			
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 8/24/2009  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input checked="" type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER:         </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input checked="" type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER:
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<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> Whiting Oil and Gas would like to Directional Drill this well to a new BHL of 1980' FNL & 660' FWL SWNW in T14S, R20E, Section 32. They would like to change the name of the well to the Ute Tribal 5-32-14-20 to reflect that change. Attached please find the revised plat, drilling plan, directional drilling plan, fluid plan, and cementing plan.					
<b>Approved by the Utah Division of Oil, Gas and Mining</b>		<b>Date:</b> August 25, 2009			
<b>By:</b> 					
<b>NAME (PLEASE PRINT)</b> Terri Hartle	<b>PHONE NUMBER</b> 435 896-5501	<b>TITLE</b> Admin/Regulatory (Western Land Services)			
<b>SIGNATURE</b> N/A	<b>DATE</b> 8/19/2009				





## WESTERN LAND SERVICES

August 19, 2009

Utah Division of Oil, Gas & Mining  
Diana Mason  
1594 W. N. Temple Suite 1210  
Salt Lake City, Utah 84114-5801

RE: Whiting Oil and Gas Corporation (Whiting) Requests Permission to Drill the Ute Tribal 5-32-14-20 well

Diana:

Pursuant to Rule R649-3-11 of the State's Oil & Gas Conservation regulations, Whiting hereby makes application for approval to drill the Ute Tribal 5-32-14-20 well situated in Township 14 South – Range 20 East; Section 32: NE/NW (809' FNL – 1,529' FWL) on lands administered by the Utah Division of Oil, Gas and Mining (UDOGM). The surface is Ute Tribal lands and the minerals are held by the state. The state has leased the minerals out to Whiting under lease number ML-44317.

Whiting proposes to drill the Ute Tribal 5-32-14-20 well to a total depth of 11,850 feet and is an exception to Rule R649-3-3. Whiting is the only leasehold owner and operator within a 460 foot radius of the bore hole.

Whiting proposes to use a directional drilling program for the Ute Tribal 5-32-14-20 well with a bottom hole location of Township 14 South-Range 20 East; Section 32: SW/ NW (1,980' FNL – 660' FWL). This well is situated outside of the legal drilling window due to the steep terrain of the area. Other alternatives were identified but the proposed access route and well location provides the most environmentally sensitive options. Attached hereto is a plat as required by the Commissions rules and regulations.

If no objections are filed, the applicant requests that this application be approved. If objections are filed, applicant requests the matter be set for hearing and that it be advised of the hearing date.

Respectfully submitted,

Terri Hartle, Western Land Services  
Designated Agent for Whiting Oil and Gas Corporation

WESTERN LAND SERVICES - UTAH DIVISION

195 North 100 East, Suite 201 • Richfield, UT 84701 • Phone: (435) 896-5501 • Fax: (435) 896-5515

Web: [www.westernls.com](http://www.westernls.com)

August 19, 2009

**Whiting Oil & Gas Corp.  
Ute Tribal 5-32-14-20 Well Plan  
Directional Entrada well  
Change in BHL & Casing Design**

Surface Location: NENW 32-T14S-R20E SLB&M  
809' FNL & 1529' FWL  
Uintah County, Utah

**SUMMARY:**

Whiting Oil & Gas Corp. is requesting a change in BHL and Casing design for the Ute Tribal 5-32-14-20 well. The original location for the vertical well put the BHL in the NENW quarter/quarter. WOGC is requesting to move the BHL to the SWNW quarter/quarter. SHL will remain as per the original permit. This change is due to re-evaluation of the geological data since the permit was originally filed.

The well will be an openhole completion in the Entrada. 7" casing will be set at the top of the Entrada, and the Entrada drilled with a 6-1/8" bit. TD for the well will be 100' below the top of the Entrada, and above the Windgate. The openhole section will be drilled with an aerated fluid due to the low pressure (0.35 psi/ft) in the Entrada. The wellbore will cut the Entrada at a high angle, 20° inclination, on a south to north trajectory. The build and hold directional design will allow the well path to intersect the east to west fracture network in the Entrada formation.

**DRILLING PROGRAM**

**1. ESTIMATED TOPS OF GEOLOGICAL MARKERS:**

Ground Level 7,499'      Estimated KB 7,527' (28')

<b><u>Formation</u></b>	<b><u>TVD</u></b>	<b><u>Core</u></b>	<b><u>Lithology</u></b>	<b><u>Hazard</u></b>
Green River	28'		Oil Shale	Oil/Gas
Wasatch	2,357'		SS-SH	Oil/Gas
Mesaverde	4,457'		SS-SH	Oil
Castlegate SS	6,327'		Sandstone	Gas
Mancos	6,602'		SS-SH	Gas
Dakota	10,527'		Sandstone	Gas
Cedar Mtn	10,644'		Sandstone	Gas
Buckhorn Congl	10,760'		SS-SH	Gas
Morrison	10,827'		SS-SH	Gas
Curtis	11,394'		SS-SH	Gas
Entrada	11,537'		Sandstone	Gas
Carmel	11,750'		LS-SH	
Kayenta	11,807'		Sandstone	Gas
Total Depth	11,850'			

Bottom Hole Location: SWNW 32-T14S-R20E SLB&M  
1980' FNL & 660' FWL  
Uintah County, Utah

\*See Attached Directional Well Plan

## 2. PRESSURE CONTROL EQUIPMENT

- A. Type:**
- 11" 5000 psi annular preventer
  - 11" 5000 psi double ram hydraulic BOP
    - 1 – Blind Ram
    - 1 - Pipe Ram
  - Drilling Spool
    - Kill lines will be 2" x 5,000 psi working pressure
    - Choke lines will be 3" x 5,000 psi working pressure
  - 5,000 psi Casing head

**B. Testing Procedure:**

The annular preventer will be pressure tested to 50% of stack rated working pressure for ten (10) minutes or until provisions of test are met, whichever is longer. The BOP, choke manifold, and related equipment will be pressure tested to approved BOP stack working pressure (if isolated from surface casing by a test plug) or to 70% of surface casing internal yield strength (if BOP is not isolated by a test plug). Pressure will be maintained for ten (10) minutes or until the requirements of the test are met, whichever is longer. At a minimum, the Annular and Blow-Out Preventer pressure tests will be performed:

1. When the BOPE is initially installed;
2. Whenever any seal subject to test pressure is broken;
3. Following related repairs; and
4. At thirty (30) day intervals.

Annular will be function tested weekly, and pipe & blind rams activated each trip, but not more than once per day. All BOP drills & tests will be recorded in IADC driller's log.

**C. Choke Manifold Equipment:**

All choke lines will be straight lines whenever possible at turns, tee blocks will be used or will be targeted with running tees, and will be anchored to prevent whip and vibration.

**D. Accumulator:**

Accumulator will have sufficient capacity to open hydraulically-controlled choke line valve (if so equipped), close all rams plus annular preventer, and retain a minimum of 200 psi above precharge on the closing manifold without the use of closing unit pumps. The fluid reservoir capacity will be double accumulator capacity and the fluid level will be maintained at manufacturer's recommendations. Accumulator precharge pressure test will be conducted prior to connecting the closing unit to the BOP stack.

**E. Miscellaneous Information:**

Choke manifold and BOP extension rods with hand wheels will be located outside rig sub-structure. Hydraulic BOP closing unit will be located at least twenty-five (25) feet from the wellhead but readily accessible to the driller. Exact locations and configurations of the hydraulic BOP closing unit will depend upon the particular rig contracted to drill this hole. A flare line will be installed after the choke manifold with the discharge point of the flare line to a separate pit located at least 125 feet away from the wellbore and any existing production facilities.

### 3. PROPOSED CASING PROGRAM

<u>Hole Size</u>	<u>Setting Depth (MD)</u>	<u>Casing Size</u>	<u>Wt./Ft.</u>	<u>Grade</u>	<u>Thread</u>
17-1/2"	500'	13-3/8"	48.00	H-40	STC
12-1/4"	4,615'	9-5/8"	36.00	J-55	LTC
8-3/4"	11,676'	7"	29.00	L-80	LTC
6-1/8"	12,038'	Open Hole			

### 4. PROPOSED CEMENTING PROGRAM

SURFACE 500' MD: TOC Surface (100% Excess)

Single Stage (Includes Top Out): 389 sacks, Rockies LT

<u>Cement Properties</u>	<u>Slurry</u>
Slurry Weight (ppg)	13.5
Slurry Yield (cf/sack)	1.80

INTERMEDIATE 4,615' MD: TOC Surface (75% Excess, TOT: 4100' MD, TOL: 200' into surface casing)

Lead: 539 sacks Halliburton ECONOCEM SYSTEM

Tail: 253 sacks Halliburton Premium Cement

<u>Cement Properties</u>	<u>Lead Slurry</u>	<u>Tail Slurry</u>
Slurry Weight (ppg)	11.0	15.8
Slurry Yield (cf/sack)	3.81	1.15

PRODUCTION 11,676' MD: TOC Surface (40% Excess, TOT: 10,450' MD above the Dakota Silt, TOL: 200' into 9-5/8" casing)

Lead: 523 sacks Halliburton Foamed Lead Cement Elastiseal System

Tail: 327 sacks Halliburton Elastiseal System

<u>Cement Properties</u>	<u>Lead Slurry</u>	<u>Tail Slurry</u>
Slurry Weight (ppg)	14.30	14.30
Slurry Yield (cf/sack)	1.47	1.47

\* See Attached cement program.

### 5. MUD PROGRAM

<u>Depth (MD)</u>	<u>Mud System</u>	<u>MW</u>	<u>PV</u>	<u>YP</u>	<u>FL</u>
0 - 500	Air	N/A	N/A	N/A	N/A
500' - 4,615'	Spud Mud	8.4 - 8.6	0 - 15	0 - 10	N/C
4,615' - 11,676'	3% KCL / Polymer	8.6 - 9.5	5 - 10	5 - 15	>8
11,676' - TD	3% KCL / Polymer Aerated	6.7 - 7.3	5 - 10	5 - 15	>8

Surface hole (0' – 500') will be drilled with the drilling rig using an air/foam package. Air/foam package will consist of compressors, booster, and foam unit. (See attached drawing and data). Package will compress 3200 SCFM of air and a fluid package capable of pumping 60 gpm nominal, of fluid to 600 psig. This same package will move 2100 SCFM two staged @ 1500 psig.

### **Special Drilling Operations**

- Rotating Head
- Bloopie line discharge 100 feet from well bore and securely anchored
- Straight run on bloopie line
- Compressors located in the opposite direction from the bloopie line
- Compressors located a minimum of 100 feet the well bore

Entrada Open hole Section 11,676' – TD will be drilled with an Aerated 3% KCL / Polymer mud system to minimize formation damage due to low BHP. An air package will consist of compressors and booster. Package should provide 2500 SCFM @ 1500 psig.

\*See attached Drilling Fluid Program

### **6. Testing, Logging and Core Programs**

Cores: None planned  
DST: None planned

Surveys: Per Directional Plan

Mud Logger: Surface

Samples: 30' samples from surface to Entrada  
10' samples to TD

Open Hole Logging Program: Triple Combo TD to Surface Casing

### **7. ANTICIPATED ABNORMAL PRESSURES OR TEMPERATURES:**

No H<sub>2</sub>S gas is anticipated.

Maximum pressure at the base of the Curtis, 4,933 psi (0.433 psi/ft normal pressure gradient) at 11,394' TVD.

Anticipated bottomhole pressure at TD is 4,147 psi (0.35 psi/ft) at 11,850' TVD (6.73 ppg equivalent).

Normal BHT calculated at 1.25°F/100' with a 65°F surface Temperature.  
BHT @ 11,850' TVD = 213°F.

### **8. ANTICIPATED STARTING DATE AND DURATION:**

Dirt work startup: August 2009

Spud: September 2009

Duration: 35 - 40 days



# **Whiting Petroleum**

**Uintah County, UT**

**Sec 32-14S-20E**

**UTE Tribal 5-32-14-20**

**Wellbore #1**

**Plan: Revised 08-06-09**

## **Standard Planning Report**

**06 August, 2009**

Whiting Petroleum  
UTE Tribal 5-32-14-20  
Uintah County, UT  
Revised 08-06-09



Whiting Petroleum Corporation

PROJECT DETAILS: Uintah County, UT

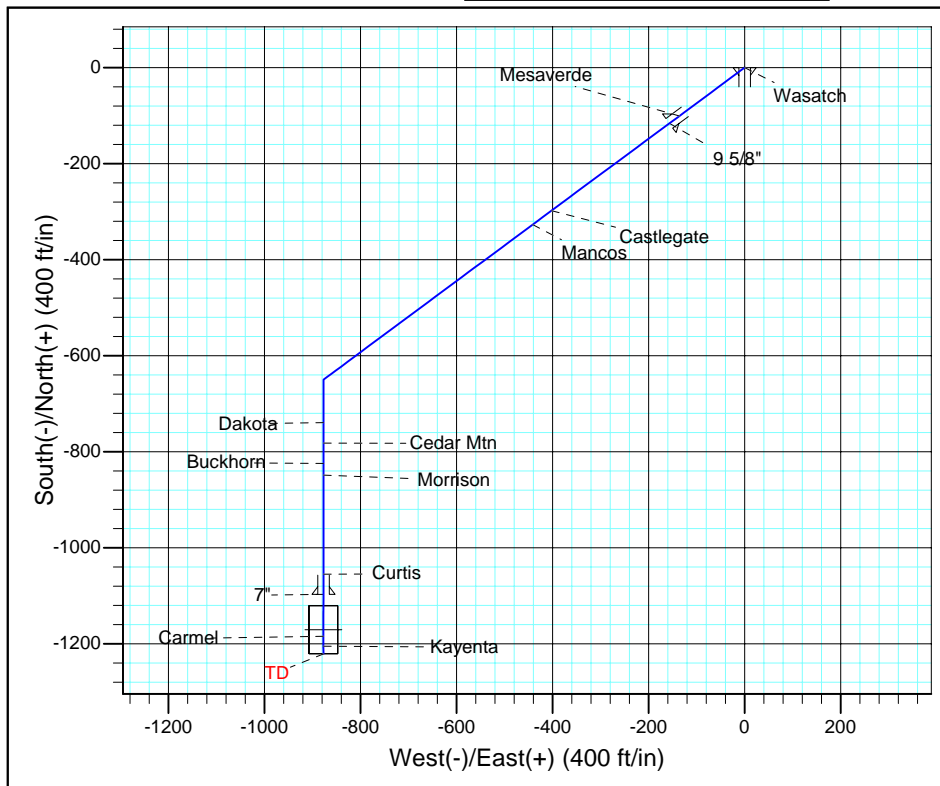
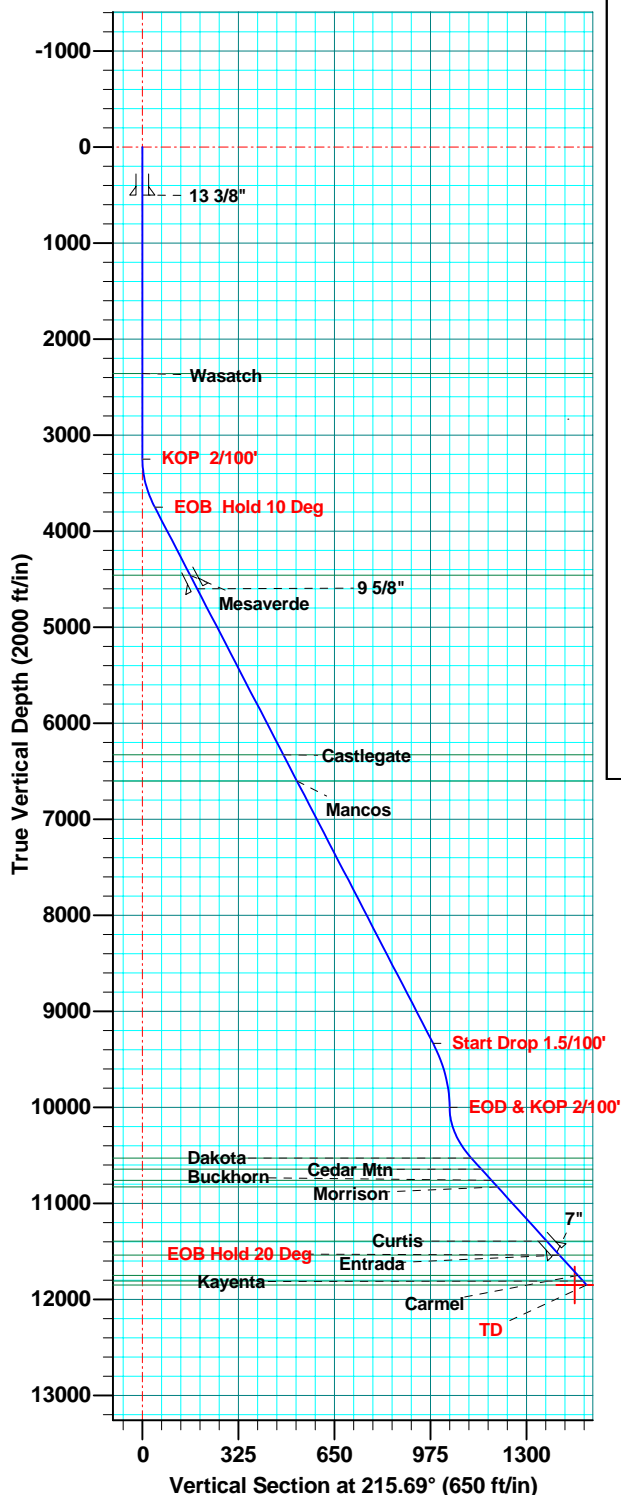
Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Utah Central Zone

System Datum: Ground Level



Azimuths to True North  
Magnetic North: 11.31°

Magnetic Field  
Strength: 52194.0snT  
Dip Angle: 65.52°  
Date: 8/6/2009  
Model: IGRF200510



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2357.0	2357.0	Wasatch
4457.0	4470.6	Mesaverde
6327.0	6369.7	Castlegate
6602.0	6649.0	Mancos
10527.0	10630.0	Dakota
10644.0	10754.5	Cedar Mtn
10760.0	10877.9	Buckhorn
10827.0	10949.2	Morrison
11394.0	11552.6	Curtis
11537.0	11704.8	Entrada
11750.0	11931.5	Carmel
11807.0	11992.1	Kayenta
11850.0	12037.9	TD

August 19, 2009

# Crescent Directional Drilling

## Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well UTE Tribal 5-32-14-20
<b>Company:</b>	Whiting Petroleum	<b>TVD Reference:</b>	WELL @ 7525.2ft (Bronco #27)
<b>Project:</b>	Uintah County, UT	<b>MD Reference:</b>	WELL @ 7525.2ft (Bronco #27)
<b>Site:</b>	Sec 32-14S-20E	<b>North Reference:</b>	True
<b>Well:</b>	UTE Tribal 5-32-14-20	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Revised 08-06-09		

<b>Project</b>	Uintah County, UT		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Ground Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Utah Central Zone		

Site		Sec 32-14S-20E				
Site Position:		Northing:	2,137,821.89m	Latitude:	39° 33' 39.020 N	
From:	Lat/Long	Easting:	654,150.95m	Longitude:	109° 42' 21.530 W	
Position Uncertainty:		0.0 ft	Slot Radius:	in	Grid Convergence:	1.15 °

Well	UTE Tribal 5-32-14-20					
Well Position	+N/-S	0.0 ft	Northing:	2,137,821.89 m	Latitude:	39° 33' 39.020 N
	+E/-W	0.0 ft	Easting:	654,150.95 m	Longitude:	109° 42' 21.530 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	28.0 ft	Ground Level:	28.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	8/6/2009	11.31	65.52	52,194

<b>Design</b>	Revised 08-06-09			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	215.69

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,250.0	0.00	0.00	3,250.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,752.3	10.05	233.46	3,749.7	-26.1	-35.3	2.00	2.00	0.00	233.46	
9,423.3	10.05	233.46	9,333.8	-615.1	-830.0	0.00	0.00	0.00	0.00	
10,092.9	0.00	0.00	10,000.0	-650.0	-877.0	1.50	-1.50	0.00	180.00	
10,649.7	20.00	180.00	10,545.6	-746.2	-877.0	3.59	3.59	0.00	180.00	
11,704.8	20.00	180.00	11,537.0	-1,107.0	-877.0	0.00	0.00	0.00	0.00	
12,037.9	20.01	180.00	11,850.0	-1,221.0	-877.0	0.00	0.00	0.00	0.00	

# Crescent Directional Drilling

## Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well UTE Tribal 5-32-14-20
<b>Company:</b>	Whiting Petroleum	<b>TVD Reference:</b>	WELL @ 7525.2ft (Bronco #27)
<b>Project:</b>	Uintah County, UT	<b>MD Reference:</b>	WELL @ 7525.2ft (Bronco #27)
<b>Site:</b>	Sec 32-14S-20E	<b>North Reference:</b>	True
<b>Well:</b>	UTE Tribal 5-32-14-20	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Revised 08-06-09		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>13 3/8"</b>									
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,357.0	0.00	0.00	2,357.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Wasatch</b>									
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,250.0	0.00	0.00	3,250.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP 2/100'</b>									
3,300.0	1.00	233.46	3,300.0	-0.3	-0.4	0.4	2.00	2.00	0.00
3,400.0	3.00	233.46	3,399.9	-2.3	-3.2	3.7	2.00	2.00	0.00
3,500.0	5.00	233.46	3,499.7	-6.5	-8.8	10.4	2.00	2.00	0.00
3,600.0	7.00	233.46	3,599.1	-12.7	-17.2	20.3	2.00	2.00	0.00
3,700.0	9.00	233.46	3,698.2	-21.0	-28.3	33.6	2.00	2.00	0.00
3,752.3	10.05	233.46	3,749.7	-26.2	-35.3	41.8	2.00	2.00	0.00
<b>EOB Hold 10 Deg</b>									
3,800.0	10.05	233.46	3,796.7	-31.1	-42.0	49.8	0.00	0.00	0.00
3,900.0	10.05	233.46	3,895.2	-41.5	-56.0	66.4	0.00	0.00	0.00
4,000.0	10.05	233.46	3,993.6	-51.9	-70.0	83.0	0.00	0.00	0.00
4,100.0	10.05	233.46	4,092.1	-62.3	-84.0	99.6	0.00	0.00	0.00
4,200.0	10.05	233.46	4,190.6	-72.7	-98.0	116.2	0.00	0.00	0.00
4,300.0	10.05	233.46	4,289.0	-83.0	-112.0	132.8	0.00	0.00	0.00
4,400.0	10.05	233.46	4,387.5	-93.4	-126.1	149.4	0.00	0.00	0.00
4,470.6	10.05	233.46	4,457.0	-100.8	-135.9	161.1	0.00	0.00	0.00

# Crescent Directional Drilling

## Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well UTE Tribal 5-32-14-20
<b>Company:</b>	Whiting Petroleum	<b>TVD Reference:</b>	WELL @ 7525.2ft (Bronco #27)
<b>Project:</b>	Uintah County, UT	<b>MD Reference:</b>	WELL @ 7525.2ft (Bronco #27)
<b>Site:</b>	Sec 32-14S-20E	<b>North Reference:</b>	True
<b>Well:</b>	UTE Tribal 5-32-14-20	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Revised 08-06-09		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
<b>Mesaverde</b>									
4,500.0	10.05	233.46	4,486.0	-103.8	-140.1	166.0	0.00	0.00	0.00
4,600.0	10.05	233.46	4,584.4	-114.2	-154.1	182.6	0.00	0.00	0.00
4,615.8	10.05	233.46	4,600.0	-115.8	-156.3	185.3	0.00	0.00	0.00
<b>9 5/8"</b>									
4,700.0	10.05	233.46	4,682.9	-124.6	-168.1	199.2	0.00	0.00	0.00
4,800.0	10.05	233.46	4,781.4	-135.0	-182.1	215.9	0.00	0.00	0.00
4,900.0	10.05	233.46	4,879.8	-145.4	-196.1	232.5	0.00	0.00	0.00
5,000.0	10.05	233.46	4,978.3	-155.7	-210.1	249.1	0.00	0.00	0.00
5,100.0	10.05	233.46	5,076.8	-166.1	-224.1	265.7	0.00	0.00	0.00
5,200.0	10.05	233.46	5,175.2	-176.5	-238.2	282.3	0.00	0.00	0.00
5,300.0	10.05	233.46	5,273.7	-186.9	-252.2	298.9	0.00	0.00	0.00
5,400.0	10.05	233.46	5,372.2	-197.3	-266.2	315.5	0.00	0.00	0.00
5,500.0	10.05	233.46	5,470.7	-207.7	-280.2	332.1	0.00	0.00	0.00
5,600.0	10.05	233.46	5,569.1	-218.1	-294.2	348.7	0.00	0.00	0.00
5,700.0	10.05	233.46	5,667.6	-228.4	-308.2	365.3	0.00	0.00	0.00
5,800.0	10.05	233.46	5,766.1	-238.8	-322.2	382.0	0.00	0.00	0.00
5,900.0	10.05	233.46	5,864.5	-249.2	-336.2	398.6	0.00	0.00	0.00
6,000.0	10.05	233.46	5,963.0	-259.6	-350.3	415.2	0.00	0.00	0.00
6,100.0	10.05	233.46	6,061.5	-270.0	-364.3	431.8	0.00	0.00	0.00
6,200.0	10.05	233.46	6,159.9	-280.4	-378.3	448.4	0.00	0.00	0.00
6,300.0	10.05	233.46	6,258.4	-290.8	-392.3	465.0	0.00	0.00	0.00
6,369.7	10.05	233.46	6,327.0	-298.0	-402.1	476.6	0.00	0.00	0.00
<b>Castlegate</b>									
6,400.0	10.05	233.46	6,356.9	-301.1	-406.3	481.6	0.00	0.00	0.00
6,500.0	10.05	233.46	6,455.3	-311.5	-420.3	498.2	0.00	0.00	0.00
6,600.0	10.05	233.46	6,553.8	-321.9	-434.3	514.8	0.00	0.00	0.00
6,649.0	10.05	233.46	6,602.0	-327.0	-441.2	523.0	0.00	0.00	0.00
<b>Mancos</b>									
6,700.0	10.05	233.46	6,652.3	-332.3	-448.4	531.5	0.00	0.00	0.00
6,800.0	10.05	233.46	6,750.7	-342.7	-462.4	548.1	0.00	0.00	0.00
6,900.0	10.05	233.46	6,849.2	-353.1	-476.4	564.7	0.00	0.00	0.00
7,000.0	10.05	233.46	6,947.7	-363.5	-490.4	581.3	0.00	0.00	0.00
7,100.0	10.05	233.46	7,046.1	-373.8	-504.4	597.9	0.00	0.00	0.00
7,200.0	10.05	233.46	7,144.6	-384.2	-518.4	614.5	0.00	0.00	0.00
7,300.0	10.05	233.46	7,243.1	-394.6	-532.4	631.1	0.00	0.00	0.00
7,400.0	10.05	233.46	7,341.5	-405.0	-546.4	647.7	0.00	0.00	0.00
7,500.0	10.05	233.46	7,440.0	-415.4	-560.5	664.3	0.00	0.00	0.00
7,600.0	10.05	233.46	7,538.5	-425.8	-574.5	680.9	0.00	0.00	0.00
7,700.0	10.05	233.46	7,636.9	-436.2	-588.5	697.6	0.00	0.00	0.00
7,800.0	10.05	233.46	7,735.4	-446.5	-602.5	714.2	0.00	0.00	0.00
7,900.0	10.05	233.46	7,833.9	-456.9	-616.5	730.8	0.00	0.00	0.00
8,000.0	10.05	233.46	7,932.3	-467.3	-630.5	747.4	0.00	0.00	0.00
8,100.0	10.05	233.46	8,030.8	-477.7	-644.5	764.0	0.00	0.00	0.00
8,200.0	10.05	233.46	8,129.3	-488.1	-658.5	780.6	0.00	0.00	0.00
8,300.0	10.05	233.46	8,227.7	-498.5	-672.6	797.2	0.00	0.00	0.00
8,400.0	10.05	233.46	8,326.2	-508.9	-686.6	813.8	0.00	0.00	0.00
8,500.0	10.05	233.46	8,424.7	-519.2	-700.6	830.4	0.00	0.00	0.00
8,600.0	10.05	233.46	8,523.1	-529.6	-714.6	847.0	0.00	0.00	0.00
8,700.0	10.05	233.46	8,621.6	-540.0	-728.6	863.7	0.00	0.00	0.00
8,800.0	10.05	233.46	8,720.1	-550.4	-742.6	880.3	0.00	0.00	0.00
8,900.0	10.05	233.46	8,818.5	-560.8	-756.6	896.9	0.00	0.00	0.00
9,000.0	10.05	233.46	8,917.0	-571.2	-770.7	913.5	0.00	0.00	0.00

# Crescent Directional Drilling

## Planning Report

**Database:** EDM 2003.16 Single User Db  
**Company:** Whiting Petroleum  
**Project:** Uintah County, UT  
**Site:** Sec 32-14S-20E  
**Well:** UTE Tribal 5-32-14-20  
**Wellbore:** Wellbore #1  
**Design:** Revised 08-06-09

**Local Co-ordinate Reference:** Well UTE Tribal 5-32-14-20  
**TVD Reference:** WELL @ 7525.2ft (Bronco #27)  
**MD Reference:** WELL @ 7525.2ft (Bronco #27)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,100.0	10.05	233.46	9,015.5	-581.6	-784.7	930.1	0.00	0.00	0.00
9,200.0	10.05	233.46	9,113.9	-591.9	-798.7	946.7	0.00	0.00	0.00
9,300.0	10.05	233.46	9,212.4	-602.3	-812.7	963.3	0.00	0.00	0.00
9,400.0	10.05	233.46	9,310.9	-612.7	-826.7	979.9	0.00	0.00	0.00
9,423.3	10.05	233.46	9,333.8	-615.1	-830.0	983.8	0.00	0.00	0.00
<b>Start Drop 1.5/100'</b>									
9,500.0	8.89	233.46	9,409.5	-622.7	-840.1	995.8	1.50	-1.50	0.00
9,600.0	7.39	233.46	9,508.5	-631.1	-851.5	1,009.3	1.50	-1.50	0.00
9,700.0	5.89	233.46	9,607.8	-638.0	-860.8	1,020.3	1.50	-1.50	0.00
9,800.0	4.39	233.46	9,707.4	-643.3	-868.0	1,028.9	1.50	-1.50	0.00
9,900.0	2.89	233.46	9,807.2	-647.1	-873.1	1,034.9	1.50	-1.50	0.00
10,000.0	1.39	233.46	9,907.1	-649.3	-876.1	1,038.5	1.50	-1.50	0.00
10,092.9	0.00	233.46	10,000.0	-650.0	-877.0	1,039.6	1.50	-1.50	0.00
<b>EOD &amp; KOP 2/100'</b>									
10,100.0	0.25	180.00	10,007.1	-650.0	-877.0	1,039.6	3.57	3.56	-750.76
10,200.0	3.85	180.00	10,107.0	-653.6	-877.0	1,042.5	3.59	3.59	0.00
10,300.0	7.44	180.00	10,206.5	-663.4	-877.0	1,050.5	3.59	3.59	0.00
10,400.0	11.03	180.00	10,305.2	-679.5	-877.0	1,063.5	3.59	3.59	0.00
10,500.0	14.62	180.00	10,402.7	-701.7	-877.0	1,081.5	3.59	3.59	0.00
10,600.0	18.21	180.00	10,498.6	-729.9	-877.0	1,104.5	3.59	3.59	0.00
10,630.0	19.29	180.00	10,527.0	-739.6	-877.0	1,112.3	3.59	3.59	0.00
<b>Dakota</b>									
10,649.7	20.00	180.00	10,545.6	-746.2	-877.0	1,117.7	3.59	3.59	0.00
10,700.0	20.00	180.00	10,592.8	-763.4	-877.0	1,131.7	0.00	0.00	0.00
10,754.5	20.00	180.00	10,644.0	-782.0	-877.0	1,146.8	0.00	0.00	0.00
<b>Cedar Mtn</b>									
10,800.0	20.00	180.00	10,686.8	-797.6	-877.0	1,159.4	0.00	0.00	0.00
10,877.9	20.00	180.00	10,760.0	-824.2	-877.0	1,181.1	0.00	0.00	0.00
<b>Buckhorn</b>									
10,900.0	20.00	180.00	10,780.8	-831.8	-877.0	1,187.2	0.00	0.00	0.00
10,949.2	20.00	180.00	10,827.0	-848.6	-877.0	1,200.9	0.00	0.00	0.00
<b>Morrison</b>									
11,000.0	20.00	180.00	10,874.7	-866.0	-877.0	1,215.0	0.00	0.00	0.00
11,100.0	20.00	180.00	10,968.7	-900.2	-877.0	1,242.8	0.00	0.00	0.00
11,200.0	20.00	180.00	11,062.7	-934.4	-877.0	1,270.5	0.00	0.00	0.00
11,300.0	20.00	180.00	11,156.6	-968.6	-877.0	1,298.3	0.00	0.00	0.00
11,400.0	20.00	180.00	11,250.6	-1,002.8	-877.0	1,326.1	0.00	0.00	0.00
11,500.0	20.00	180.00	11,344.6	-1,037.0	-877.0	1,353.9	0.00	0.00	0.00
11,552.6	20.00	180.00	11,394.0	-1,055.0	-877.0	1,368.5	0.00	0.00	0.00
<b>Curtis</b>									
11,600.0	20.00	180.00	11,438.5	-1,071.2	-877.0	1,381.7	0.00	0.00	0.00
11,676.1	20.00	180.00	11,510.0	-1,097.2	-877.0	1,402.8	0.00	0.00	0.00
<b>7"</b>									
11,700.0	20.00	180.00	11,532.5	-1,105.4	-877.0	1,409.4	0.00	0.00	0.00
11,704.8	20.00	180.00	11,537.0	-1,107.0	-877.0	1,410.8	0.00	0.00	0.00
<b>EOB Hold 20 Deg - Entrada</b>									
11,800.0	20.00	180.00	11,626.5	-1,139.6	-877.0	1,437.2	0.00	0.00	0.00
11,900.0	20.01	180.00	11,720.5	-1,173.8	-877.0	1,465.0	0.00	0.00	0.00
11,931.5	20.02	180.00	11,750.0	-1,184.6	-877.0	1,473.7	0.04	0.04	0.00
<b>Carmel</b>									
11,992.1	20.01	180.00	11,807.0	-1,205.3	-877.0	1,490.6	0.01	-0.01	0.00
<b>Kayenta</b>									

# Crescent Directional Drilling

## Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well UTE Tribal 5-32-14-20
<b>Company:</b>	Whiting Petroleum	<b>TVD Reference:</b>	WELL @ 7525.2ft (Bronco #27)
<b>Project:</b>	Uintah County, UT	<b>MD Reference:</b>	WELL @ 7525.2ft (Bronco #27)
<b>Site:</b>	Sec 32-14S-20E	<b>North Reference:</b>	True
<b>Well:</b>	UTE Tribal 5-32-14-20	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Revised 08-06-09		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,000.0	20.01	180.00	11,814.4	-1,208.0	-877.0	1,492.8	0.05	-0.05	0.00
12,020.8	20.01	180.00	11,833.9	-1,215.1	-877.0	1,498.6	0.00	0.00	0.00
<b>UTE 5-32-14-20</b>									
12,037.9	20.01	180.00	11,850.0	-1,221.0	-877.0	1,503.3	0.01	0.01	0.00
<b>TD</b>									

### Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (m)	Easting (m)	Latitude	Longitude
UTE 5-32-14-20	0.00	0.00	11,850.0	-1,171.0	-877.0	2,137,459.68	653,890.85	39° 33' 27.446 N	109° 42' 32.728 W
- plan misses target center by 47.0ft at 12020.8ft MD (11833.9 TVD, -1215.1 N, -877.0 E)									
- Rectangle (sides W100.0 H60.0 D0.0)									

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
500.0	500.0	13 3/8"	13.375	17.500
4,615.8	4,600.0	9 5/8"	9.625	12.250
11,676.1	11,510.0	7"	7.000	8.750

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
12,037.9	11,850.0	TD		0.00	
2,357.0	2,357.0	Wasatch		0.00	
11,992.1	11,807.0	Kayenta		0.00	
10,630.0	10,527.0	Dakota		0.00	
4,470.6	4,457.0	Mesaverde		0.00	
11,704.8	11,537.0	Entrada		0.00	
10,877.9	10,760.0	Buckhorn		0.00	
6,369.7	6,327.0	Castlegate		0.00	
11,552.6	11,394.0	Curtis		0.00	
10,949.2	10,827.0	Morrison		0.00	
11,931.5	11,750.0	Carmel		0.00	
6,649.0	6,602.0	Mancos		0.00	
10,754.5	10,644.0	Cedar Mtn		0.00	

# Crescent Directional Drilling

## Planning Report

**Database:** EDM 2003.16 Single User Db  
**Company:** Whiting Petroleum  
**Project:** Uintah County, UT  
**Site:** Sec 32-14S-20E  
**Well:** UTE Tribal 5-32-14-20  
**Wellbore:** Wellbore #1  
**Design:** Revised 08-06-09

**Local Co-ordinate Reference:** Well UTE Tribal 5-32-14-20  
**TVD Reference:** WELL @ 7525.2ft (Bronco #27)  
**MD Reference:** WELL @ 7525.2ft (Bronco #27)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
3,250.0	3,250.0	0.0	0.0	KOP 2/100'
3,752.3	3,749.7	-26.2	-35.3	EOB Hold 10 Deg
9,423.3	9,333.8	-615.1	-830.0	Start Drop 1.5/100'
10,092.9	10,000.0	-650.0	-877.0	EOD & KOP 2/100'
11,704.8	11,537.0	-1,107.1	-877.0	EOB Hold 20 Deg



Found Set Marked Stone, with 5 notches on NE edge & 1 notch on SE edge of stone.

**T14S, R20E, S.L.B.&M.**

S89°50'W - 80.00 (G.L.O.)

S89°58'23"W - 2637.06' (Meas.)

S89°49'06"W - 2625.67' (Meas.)

Found Set Marked Stone, with 1/4 marked on North side of stone.

Found Set Stone, pile of stones.

2619.75' (Measured)  
N00°23'57"E (Basis of Bearings)

N0°03'W (G.L.O.)

N0°03'W (G.L.O.)

**WELL LOCATION:  
UTE TRIBAL 5-32-14-20**

ELEV. UNGRADED GROUND = 7498.8'

**32**

S89°54'W (G.L.O.)

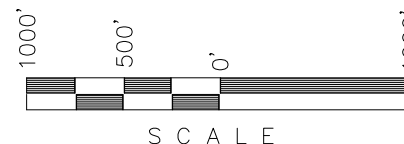
▲ = SECTION CORNERS LOCATED

UTE TRIBAL 5-32-14-20  
(Bottom Hole) NAD 83 Autonomous  
LATITUDE = 39° 33' 27.45"  
LONGITUDE = 109° 42' 32.73"

UTE TRIBAL 5-32-14-20  
(Surface Position) NAD 83 Autonomous  
LATITUDE = 39° 33' 39.02"  
LONGITUDE = 109° 42' 21.53"

**WHITING OIL AND GAS CORPORATION**

WELL LOCATION, UTE TRIBAL 5-32-14-20,  
LOCATED AS SHOWN IN THE SW 1/4 NW 1/4  
OF SECTION 32, T14S, R20E, S.L.B.&M.  
UINTAH COUNTY, UTAH.



**NOTES:**

1. Well footages are measured at right angles to the Section Lines.
2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
3. The Bottom of hole bears S36°50'10"W 1463.53' from the Surface Position.
4. Bearings are based on Global Positioning Satellite observations.
5. BASIS OF ELEVATION IS BENCH MARK 60 WF 1952 LOCATED IN THE SW 1/4 OF SECTION 35, T14S, R20E, S.L.B.&M. THE ELEVATION OF THIS BENCH MARK IS SHOWN ON THE FLAT ROCK MESA 7.5 MIN. QUADRANGLE AS BEING 7363'.

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS  
PREPARED FROM FIELD NOTES OF ANGULAR SURVEYS  
MADE BY ME OR UNDER MY SUPERVISION AND THAT  
THE SAME ARE TRUE AND CORRECT TO THE BEST OF  
MY KNOWLEDGE AND BELIEF.

*Kelly R. Kay*  
REGISTERED LAND SURVEYOR  
REGISTRATION NO. 362251  
STATE OF UTAH

**TIMBERLINE**

(435) 789-1365

**ENGINEERING & LAND SURVEYING, INC.**

209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 09-07-07	SURVEYED BY: B.J.S.	<b>SHEET 2 OF 11</b>
DATE DRAWN: 09-25-07	DRAWN BY: M.W.W.	
SCALE: 1" = 1000'	Date Last Revised: 08-03-09	

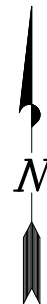
August 19, 2009

# WHITING OIL AND GAS CORPORATION

## WELL PAD INTERFERENCE PLAT UTE TRIBAL 5-32-14-20

BASIS OF ELEVATION IS BENCH MARK 60 WF 1952 LOCATED IN THE SW 1/4 OF SECTION 35, T14S, R20E, S.L.B.&M. THE ELEVATION OF THIS BENCH MARK IS SHOWN ON THE FLAT ROCK MESA 7.5 MIN. QUADRANGLE AS BEING 7363'.

BASIS OF BEARINGS IS THE WEST LINE OF THE NW 1/4 OF SECTION 32, T14S, R20E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°23'57"E.



Existing Road

### SURFACE POSITION FOOTAGES:

UTE TRIBAL 5-32-14-20  
809' FNL & 1529' FWL

### BOTTOM HOLE FOOTAGES

UTE TRIBAL 5-32-14-20  
1980' FNL & 660' FWL

PROPOSED GRADED GROUND  
ELEVATION OF PAD IS 7497.2'.

N88°41'21"W

● UTE TRIBAL 5-32-14-20

S36°50'10"W - 1463.53'  
(To Bottom Hole)

### RELATIVE COORDINATES

From Surface Position to Bottom Hole

WELL	NORTH	EAST
5-32-14-20	-1,171'	-877'

### LATITUDE & LONGITUDE

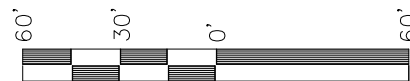
Surface Position - (NAD 83) Autonomous

WELL	N. LATITUDE	W. LONGITUDE
5-32-14-20	39°33'39.02"	109°42'21.53"

### LATITUDE & LONGITUDE

Bottom Hole - (NAD 83) Autonomous

WELL	N. LATITUDE	W. LONGITUDE
5-32-14-20	39°33'27.45"	109°42'32.73"



S C A L E

Section 32, T14S, R20E, S.L.B.&M.

Qtr/Qtr Location: NE NW (Surface)

Date Surveyed:  
09-07-07

Date Drawn:  
08-04-09

Date Last Revision:

Surveyed By: B.J.S.

Drawn By: M.W.W.

Scale: 1" = 60'

**Timberline**

(435) 789-1365

Engineering & Land Surveying, Inc.

209 NORTH 300 WEST VERNAL, UTAH 84078

SHEET

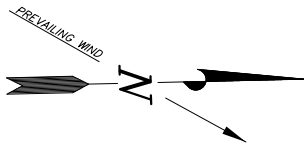
3

OF 11

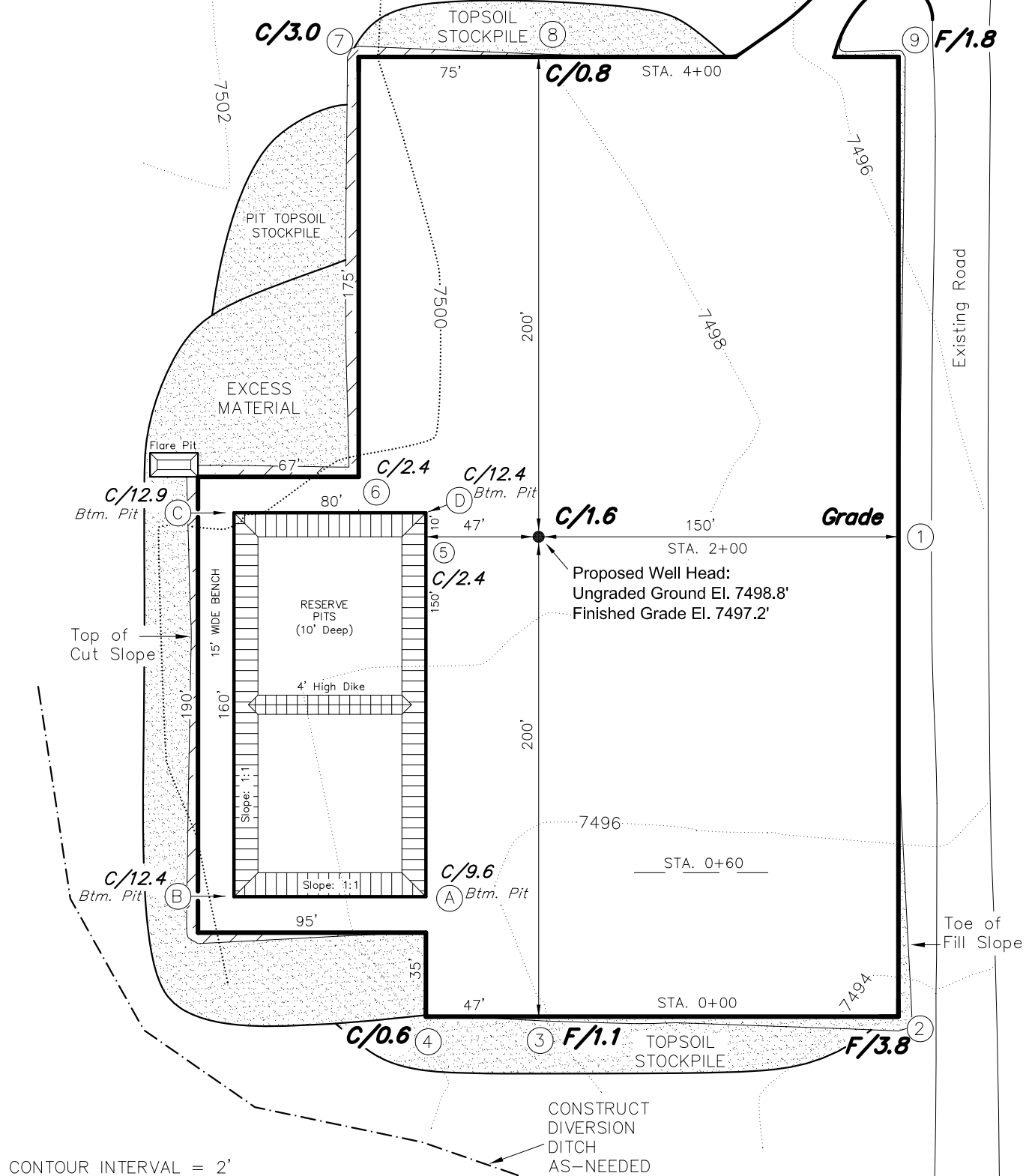
August 19, 2009

# WHITING OIL AND GAS CORPORATION

## CUT SHEET UTE TRIBAL 5-32-14-20



PROPOSED ACCESS  
ROAD



Section 32, T14S, R20E, S.L.B.&M.

Qtr/Qtr Location: NE NW (Surface)

Date Surveyed:  
09-07-07

Date Drawn:  
09-25-07

Date Last Revision:  
08-04-09

Surveyed By: B.J.S..

Drawn By: M.W.W.

Scale: 1" = 60'

**Timberline**

(435) 789-1365


Engineering & Land Surveying, Inc.

209 NORTH 300 WEST VERNAL, UTAH 84078

SHEET  
4

OF 11

August 19, 2009

<b>RECOMMENDED BY</b>		 <b>WHITING PETROLEUM CORP.</b> 1700 BROADWAY Suite 2300 Denver, CO 80290 303-837-1661
Central Rockies		
<b>REVISIONS:</b>		
1 _____	DATE: _____	
2 _____	DATE: _____	

WELL INFORMATION			
<b>API:</b>	43-047-39741-00	<b>AFE:</b>	
<b>WELL NAME:</b>	UTE TRIBAL 5-32-14-20	<b>ACQUISITION:</b>	CEA
<b>PROSPECT:</b>	FLAT ROCK	<b>RESERVE CATEGORY:</b>	
<b>SURFACE LOCATION:</b>	NENW 32 14S 20E	<b>SURFACE LONG, LAT:</b>	-109.7052200, 39.5609000
<b>SURFACE FOOTAGE:</b>	809 FNL 1529 FWL	<b>BOTTOM HOLE LONG, LAT:</b>	
<b>BOTTOM HOLE LOCATION:</b>	SWNW 32 14S 20E	<b>SURVEYED ELEVATION (GR):</b>	7,499
<b>BOTTOM HOLE FOOTAGE:</b>	1980 FNL 660 FWL	<b>HEIGHT TO KB:</b>	28
<b>COUNTY:</b>	Uintah	<b>ACTUAL ELEV. (KB):</b>	7,527
<b>STATE:</b>	UT	<b>TVD (if horizontal well):</b>	ft.
<b>LOCATION MAY BE MOVED:</b>		<b>TMD (if horizontal well):</b>	ft.
<b>PROPOSED TOTAL DEPTH (TVD):</b>	11,850	<b>FORMATION AT TD:</b>	Wingate

FORMATION	TOP - TVD	TOP - TVDSS	INTVL	CORE	LITHOLOGY	GEOLOGIC HAZARDS
Green River Fm @ Surface	28	7,499	2,329		Oil Shale	oil and/or gas anticipated
Wasatch Fm	2,357	5,170	2,100		SS-SH	oil and/or gas anticipated
Mesaverde	4,457	3,070	1,870		SS-SH	oil and/or gas anticipated
Castlegate SS	6,327	1,200	275		Sandstone	gas
Mancos	6,602	925	505		SS-SH	gas
Mancos B	7,107	420	3,325		Sandstone	gas
Dakota Silt	10,432	(2,905)	95		Sandstone	gas
Dakota	10,527	(3,000)	117		Sandstone	gas
Cedar Mtn Fm	10,644	(3,117)	116		Sandstone	gas
Buckhorn Congl	10,760	(3,233)	67		SS-SH	gas
Morrison Fm	10,827	(3,300)	567		SS-SH	
Curtis Fm	11,394	(3,867)	143		SS-SH	
Entrada SS	11,537	(4,010)	213		Sandstone	gas
Carmel	11,750	(4,223)	57		LS-SH	
Kayenta	11,807	(4,280)	140		Sandstone	gas
Wingate	11,947	(4,420)	(97)		Sandstone	gas
TD	11,850	(4,323)				

WIRELINE LOGS		CORING & CUTTINGS	
<b>LOGGING COMPANY:</b>		<b>CORING TOOL CO:</b> _____	
<b>TRIPLE COMBO</b> YES		<b>CORE ANALYSIS CO:</b> _____	
<b>FROM:</b> TD to surf		<b>30' SAMPLES:</b> Surf Csg <b>TO:</b> TD <b>10' SAMPLES:</b> _____ <b>TO:</b> _____ <b>SHIP CUTTINGS TO:</b> _____	
		Larry Rasmussen Whiting Petroleum Corp. 1700 Broadway, Ste 2300 Denver, CO 80290	
<b>WELLSITE GEOLOGIST</b>		<b>MUD LOGGER</b>	
<b>NAME:</b>		<b>NAME:</b>	
<b>PHONE</b>		<b>PHONE</b>	
<b>STARTING DEPTH:</b>		<b>STARTING DEPTH:</b>	Surface Csg
NOTIFICATIONS		OFFICE	MOBILE
1st	Larry Rasmussen - Geologist	303-390-4093	720-272-5978
2nd	John Forster - Regional Geol Manager	303-390-4117	303-324-7690
3rd	Dana Greathouse - Regional Drilling Mgr	303-390-4247	303-808-3687
4th	Tom Smith - Sr. Operations Engineer	303-390-4124	720-283-3272

**SPECIAL INSTRUCTIONS:** Anticipate continuous gas from Wasatch through the Entrada, possibly Wingate.  
Expect underpressured reservoirs, 0.35 psi/ft, Bottom Hole Temperature of ~230F



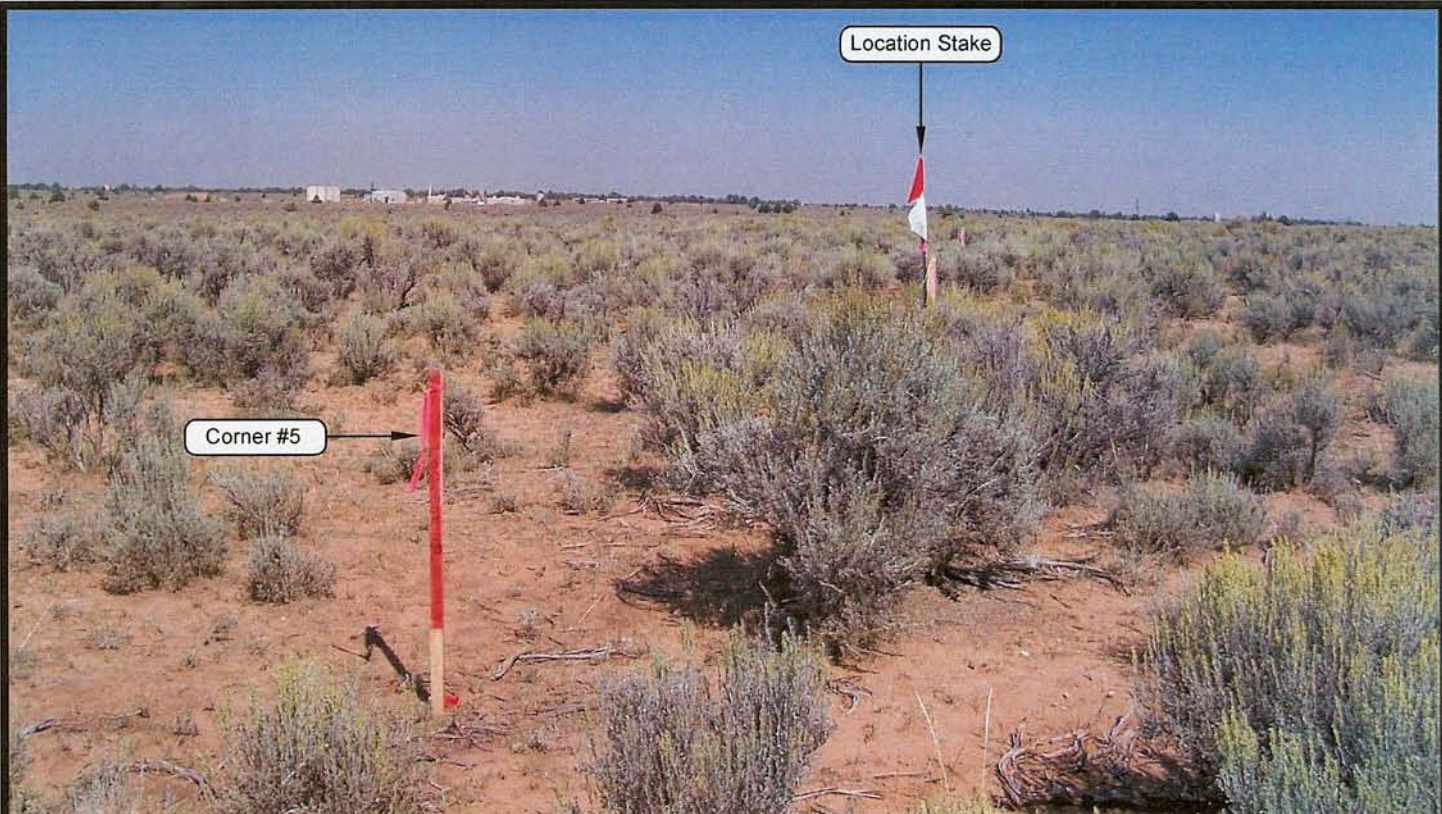


PHOTO VIEW: FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: NORTHERLY

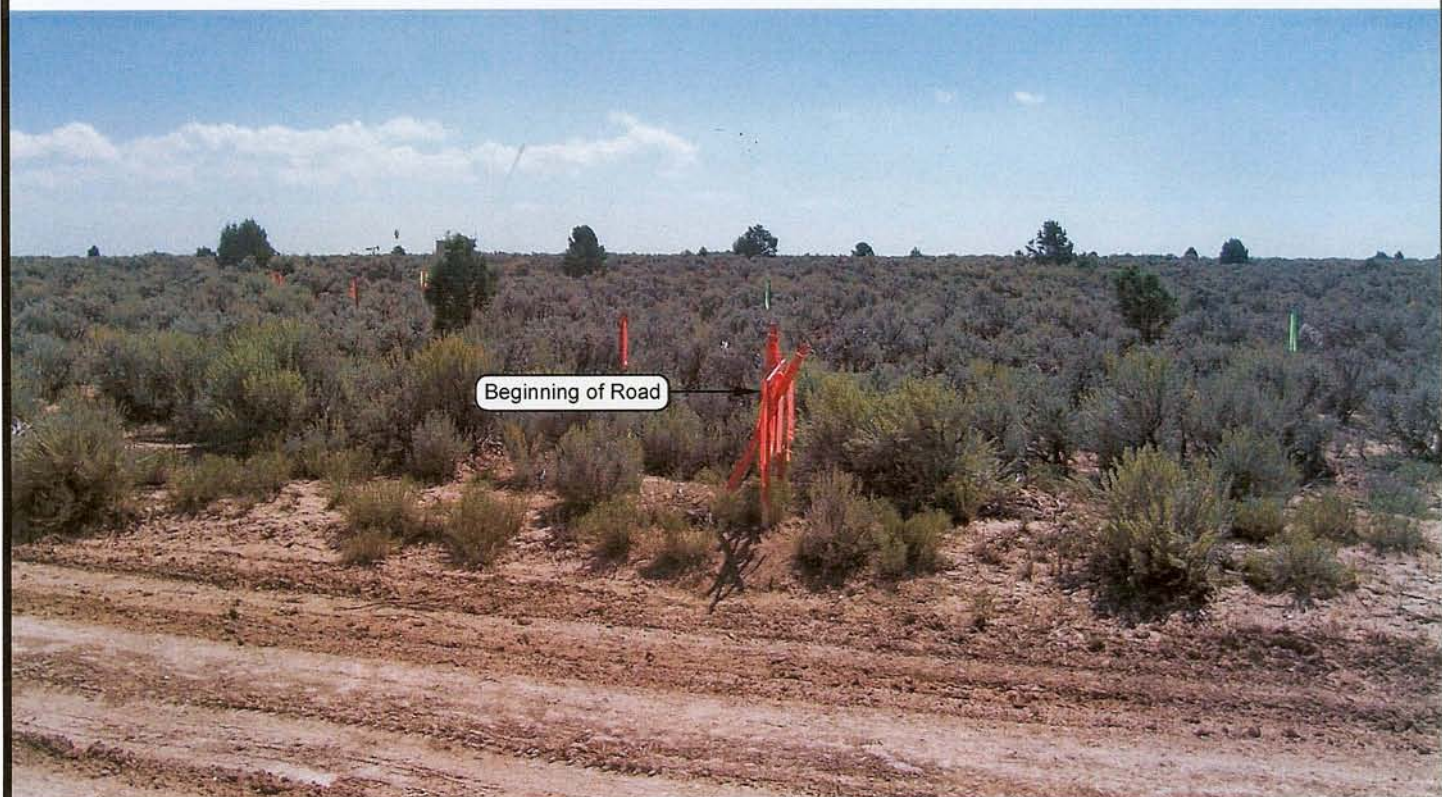


PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: SOUTHEASTERLY

# **WHITING OIL AND GAS CORPORATION**

**Ute Tribal 5-32-14-20**  
**SECTION 32, T14S, R20E, S.L.B.&M.**  
**809' FNL & 1529' FWL (Surface)**

## **LOCATION PHOTOS**

TAKEN BY: B.J.S.

DRAWN BY: M.W.W.

DATE TAKEN: 09-07-07

DATE DRAWN: 09-26-07

REVISED: 08-04-09

**Timberline** (435) 789-1365  
 Engineering & Land Surveying, Inc.  
 209 NORTH 300 WEST VERNAL, UTAH 84078

**SHEET**  
**1**  
**OF 11**

August 19, 2009



Found Set Marked Stone, with 5 notches on NE edge & 1 notch on SE edge of stone.

**T14S, R20E, S.L.B.&M.**

S89°50'W - 80.00 (G.L.O.)

S89°58'23"W - 2637.06' (Meas.)

S89°49'06"W - 2625.67' (Meas.)

Found Set Marked Stone, with 1/4 marked on North side of stone.

Found Set Stone, pile of stones.

2619.75' (Measured)  
N00°23'57"E (Basis of Bearings)

N0°03'W (G.L.O.)

N0°03'W (G.L.O.)

**WELL LOCATION:  
UTE TRIBAL 5-32-14-20**

ELEV. UNGRADED GROUND = 7498.8'

**32**

S89°54'W (G.L.O.)

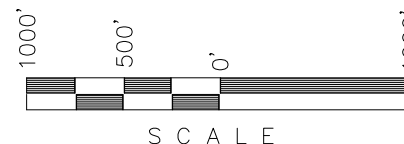
▲ = SECTION CORNERS LOCATED

UTE TRIBAL 5-32-14-20  
(Bottom Hole) NAD 83 Autonomous  
LATITUDE = 39° 33' 27.45"  
LONGITUDE = 109° 42' 32.73"

UTE TRIBAL 5-32-14-20  
(Surface Position) NAD 83 Autonomous  
LATITUDE = 39° 33' 39.02"  
LONGITUDE = 109° 42' 21.53"

**WHITING OIL AND GAS CORPORATION**

WELL LOCATION, UTE TRIBAL 5-32-14-20,  
LOCATED AS SHOWN IN THE SW 1/4 NW 1/4  
OF SECTION 32, T14S, R20E, S.L.B.&M.  
UINTAH COUNTY, UTAH.



**NOTES:**

1. Well footages are measured at right angles to the Section Lines.
2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
3. The Bottom of hole bears S36°50'10"W 1463.53' from the Surface Position.
4. Bearings are based on Global Positioning Satellite observations.
5. BASIS OF ELEVATION IS BENCH MARK 60 WF 1952 LOCATED IN THE SW 1/4 OF SECTION 35, T14S, R20E, S.L.B.&M. THE ELEVATION OF THIS BENCH MARK IS SHOWN ON THE FLAT ROCK MESA 7.5 MIN. QUADRANGLE AS BEING 7363'.

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MADE BY ME OR UNDER MY SUPERVISION AND THAT  
THE SAME ARE TRUE AND CORRECT TO THE BEST OF  
MY KNOWLEDGE AND BELIEF.

*Kelly R. Kay*  
No. 362251  
KOLBY R. KAY

REGISTERED LAND SURVEYOR  
REGISTRATION NO. 362251  
STATE OF UTAH

**TIMBERLINE**

(435) 789-1365

**ENGINEERING & LAND SURVEYING, INC.**

209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 09-07-07	SURVEYED BY: B.J.S.	<b>SHEET 2 OF 11</b>
DATE DRAWN: 09-25-07	DRAWN BY: M.W.W.	
SCALE: 1" = 1000'	Date Last Revised: 08-03-09	

August 19, 2009

# WHITING OIL AND GAS CORPORATION

## WELL PAD INTERFERENCE PLAT UTE TRIBAL 5-32-14-20

BASIS OF ELEVATION IS BENCH MARK 60 WF 1952 LOCATED IN THE SW 1/4 OF SECTION 35, T14S, R20E, S.L.B.&M. THE ELEVATION OF THIS BENCH MARK IS SHOWN ON THE FLAT ROCK MESA 7.5 MIN. QUADRANGLE AS BEING 7363'.

BASIS OF BEARINGS IS THE WEST LINE OF THE NW 1/4 OF SECTION 32, T14S, R20E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°23'57"E.



Existing Road

### SURFACE POSITION FOOTAGES:

UTE TRIBAL 5-32-14-20  
809' FNL & 1529' FWL

### BOTTOM HOLE FOOTAGES

UTE TRIBAL 5-32-14-20  
1980' FNL & 660' FWL

PROPOSED GRADED GROUND  
ELEVATION OF PAD IS 7497.2'.

N88°41'21"W

● UTE TRIBAL 5-32-14-20

S36°50'10"W - 1463.53'  
(To Bottom Hole)

### RELATIVE COORDINATES

From Surface Position to Bottom Hole

WELL	NORTH	EAST
5-32-14-20	-1,171'	-877'

### LATITUDE & LONGITUDE

Surface Position - (NAD 83) Autonomous

WELL	N. LATITUDE	W. LONGITUDE
5-32-14-20	39°33'39.02"	109°42'21.53"

### LATITUDE & LONGITUDE

Bottom Hole - (NAD 83) Autonomous

WELL	N. LATITUDE	W. LONGITUDE
5-32-14-20	39°33'27.45"	109°42'32.73"



S C A L E

Section 32, T14S, R20E, S.L.B.&M.

Qtr/Qtr Location: NE NW (Surface)

Date Surveyed:  
09-07-07

Date Drawn:  
08-04-09

Date Last Revision:

Surveyed By: B.J.S.

Drawn By: M.W.W.

Scale: 1" = 60'

**Timberline**

(435) 789-1365

Engineering & Land Surveying, Inc.

209 NORTH 300 WEST VERNAL, UTAH 84078

SHEET  
3

OF 11

August 19, 2009

CUT SHEET  
UTE TRIBAL 5-32-14-20

A diagram of a windmill. A line labeled "PREVAILING WIND" points towards the windmill from the upper left. The windmill's tail fin is oriented towards the upper left, and the cap is oriented towards the lower right, as indicated by an arrow pointing to the cap.

The site plan illustrates the layout for a proposed well head and associated infrastructure. Key features include:

- Proposed Well Head:** Located at the center-right, with an ungraded ground elevation of 7498.8' and a finished grade elevation of 7497.2'. It is situated at the intersection of STA. 2+00 and STA. 0+60.
- Pits and Stockpiles:**
  - Flare Pit:** Located at the top left, with a width of 67'.
  - PIT TOPSOIL STOCKPILE:** Located at the top left, with a width of 175'.
  - TOPSOIL STOCKPILE (7):** Located at the top center, with a width of 75'.
  - TOPSOIL STOCKPILE (8):** Located at the top center, with a width of 75'.
  - RESERVE PITS (10' Deep):** Located in the center, with a width of 160' and a 4' high dike.
  - EXCESS MATERIAL:** Located at the top left, with a width of 175'.
  - TOPSOIL STOCKPILE (9):** Located at the bottom right, with a width of 7494'.
- Roads and Elevation:**
  - Existing Road:** Located on the right side, with a width of 1496'.
  - Grade:** Indicated by a horizontal line at STA. 2+00.
  - Top of Cut Slope:** Indicated by a dashed line on the left side.
  - Toe of Fill Slope:** Indicated by a dashed line on the right side.
- Other Features:**
  - CONSTRUCT DIVERSION DITCH AS-NEEDED:** Indicated by a dashed line at the bottom.
  - UR INTERVAL = 2':** Indicated at the bottom left.

CONTOUR INTERVAL = 2'

CONSTRUCT  
DIVERSION  
DITCH  
AS-NEEDED

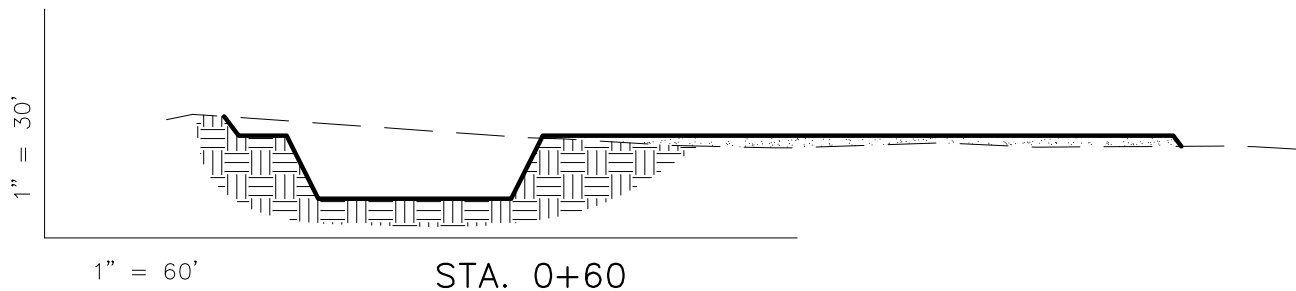
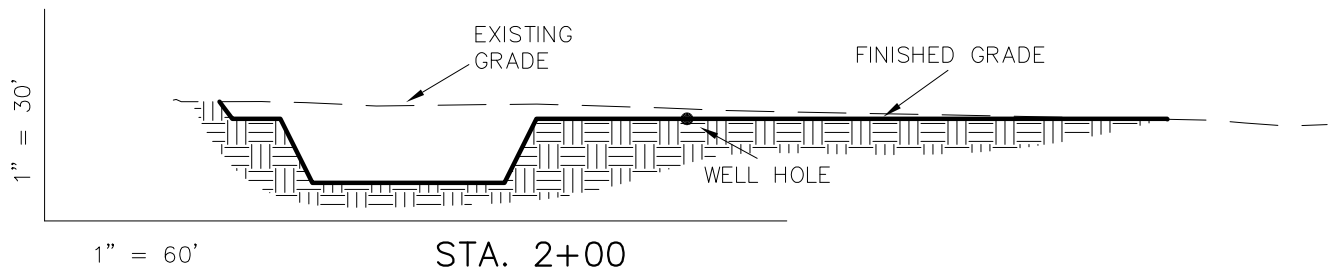
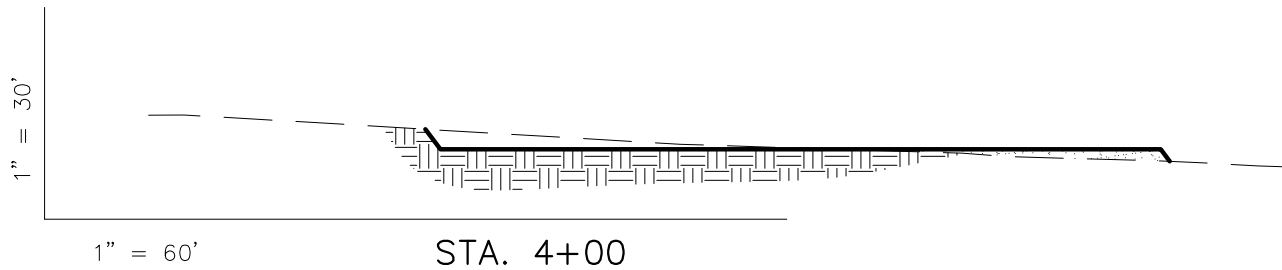
Section 32, T14S, R20E, S.L.B.&M.		Qtr/Qtr Location: NE NW (Surface)			
Date Surveyed: 09-07-07	Date Drawn: 09-25-07	Date Last Revision: 08-04-09	<b>Timberline</b> (435) 789-1365 <i>Engineering &amp; Land Surveying, Inc.</i> 209 NORTH 300 WEST VERNAL, UTAH 84078		
Surveyed By: B.J.S.	Drawn By: M.W.W.	Scale: 1" = 60'			
			SHEET 4 OF 11		

August 19, 2009

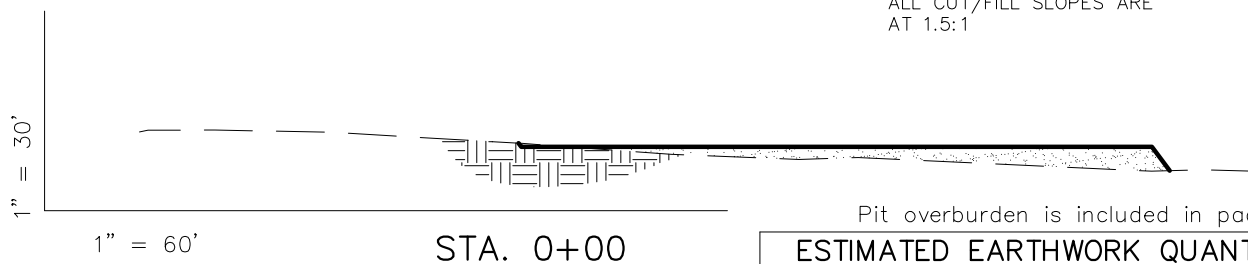


# WHITING OIL AND GAS CORPORATION

## CROSS SECTIONS UTE TRIBAL 5-32-14-20



NOTE:  
UNLESS OTHERWISE NOTED  
ALL CUT/FILL SLOPES ARE  
AT 1.5:1



### REFERENCE POINTS

200' NORTHERLY = 7496.4'  
250' NORTHERLY = 7495.5'  
250' EASTERLY = 7497.0'  
300' EASTERLY = 7496.6'

Pit overburden is included in pad cut.

### ESTIMATED EARTHWORK QUANTITIES (No shrink or swell adjustments have been used) (Expressed in Cubic Yards)

ITEM	CUT	FILL	6" TOPSOIL	EXCESS
PAD	2,200	2,200	Topsoil is not included in Pad Cut	0
PIT	3,850	0		3,850
TOTALS	6,050	2,200	1,880	3,850

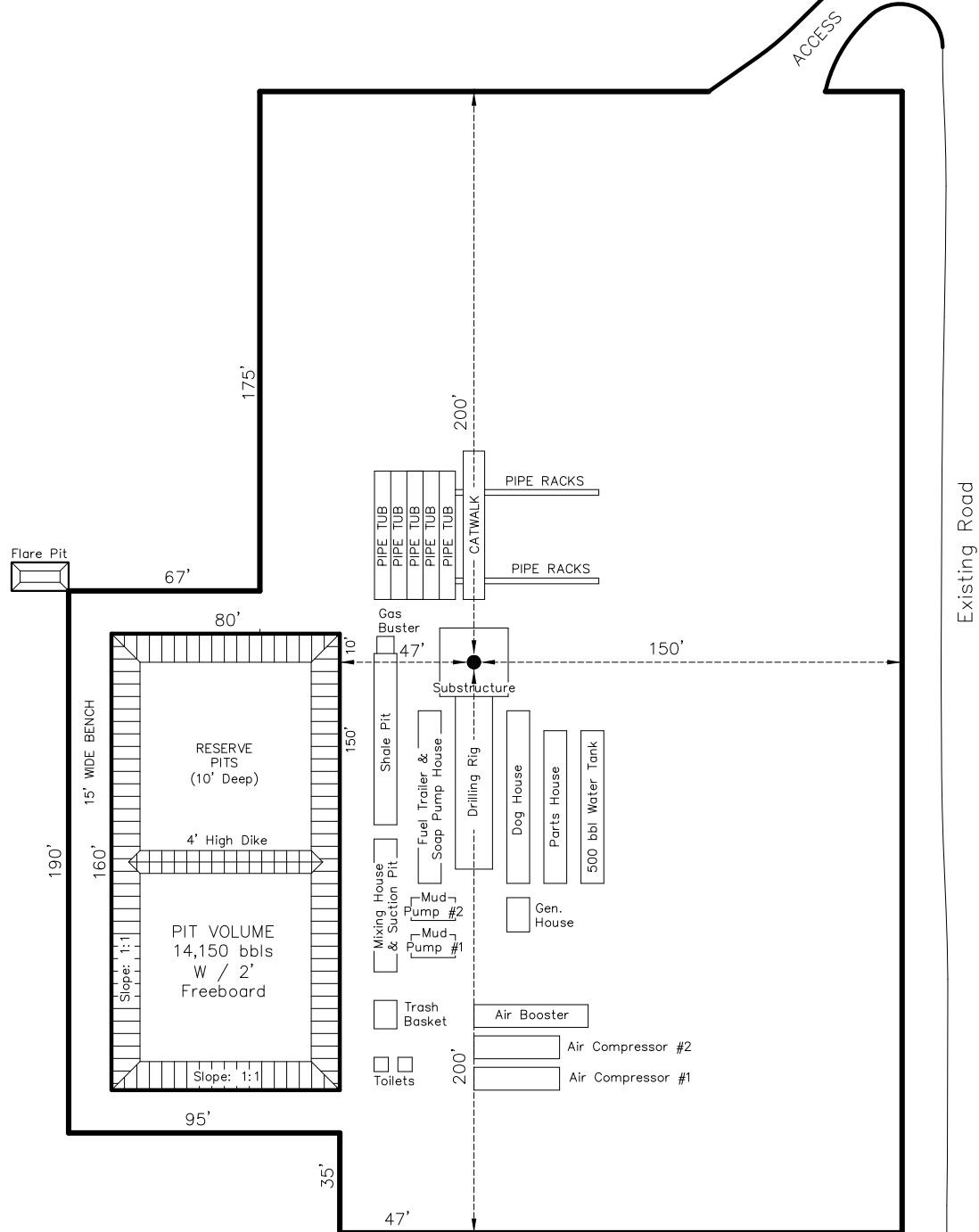
Excess Material after Pit Rehabilitation = 0 Cu. Yds.

Section 32, T14S, R20E, S.L.B.&M.		Qtr/Qtr Location: NE NW (Surface)	
Date Surveyed: 09-07-07	Date Drawn: 09-25-07	Date Last Revision: 08-04-09	<b>Timberline</b> (435) 789-1365 <i>Engineering &amp; Land Surveying, Inc.</i> 209 NORTH 300 WEST VERNAL, UTAH 84078
Surveyed By: B.J.S.	Drawn By: M.W.W.	Scale: 1" = 60'	

SHEET  
**5**  
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August 19, 2009

TYPICAL RIG LAYOUT  
UTE TRIBAL 5-32-14-20

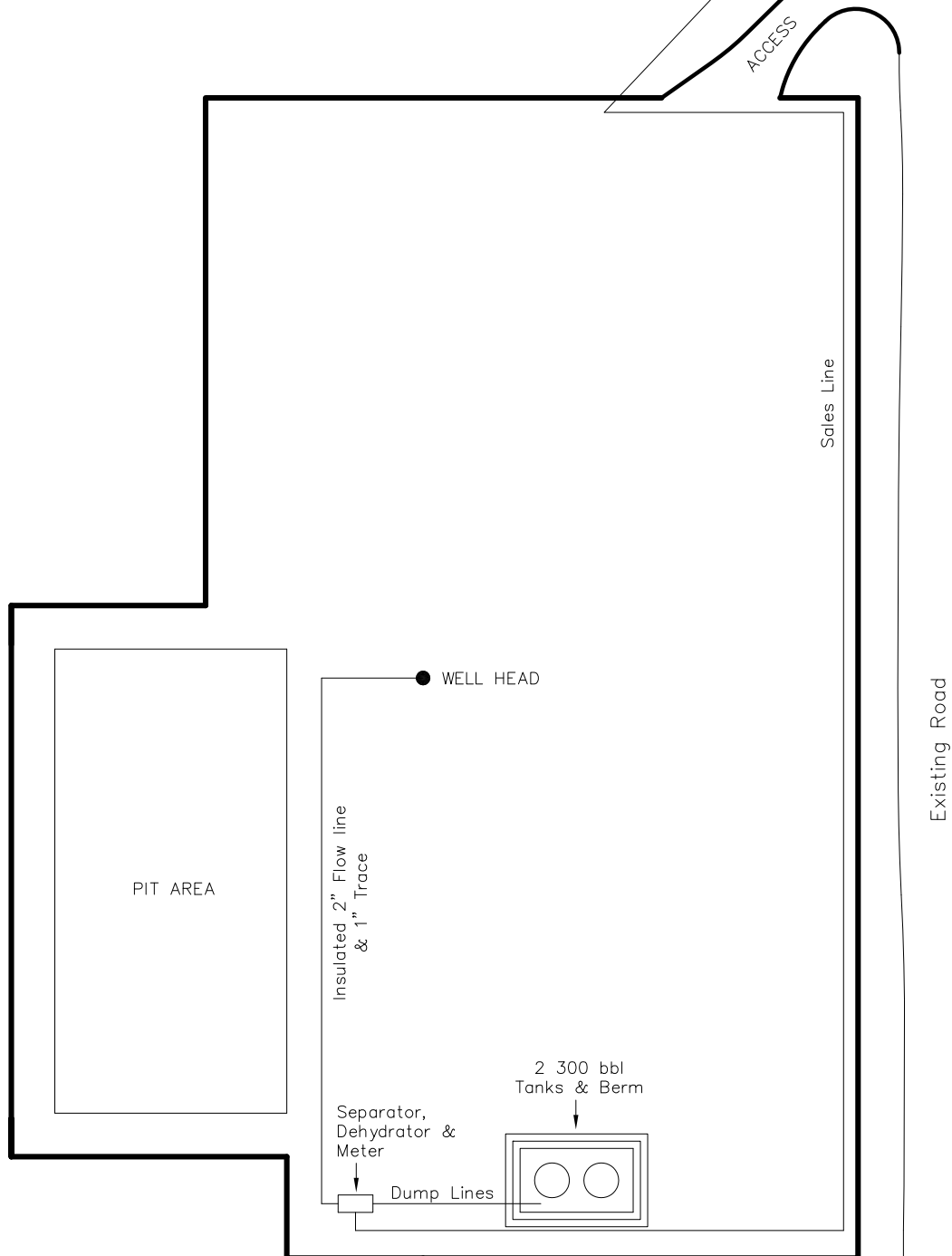


Section 32, T14S, R20E, S.L.B.&M.		Qtr/Qtr Location: NE NW (Surface)			
Date Surveyed: 09-07-07	Date Drawn: 09-25-07	Date Last Revision: 08-04-09	<b>Timberline</b> (435) 789-1365 <i>Engineering &amp; Land Surveying, Inc.</i> 209 NORTH 300 WEST VERNAL, UTAH 84078		
Surveyed By: B.J.S..	Drawn By: M.W.W.	Scale: 1" = 60'			
			SHEET <b>6</b> OF 11		

August 19, 2009

# WHITING OIL AND GAS CORPORATION

## TYPICAL PRODUCTION LAYOUT UTE TRIBAL 5-32-14-20



Section 32, T14S, R20E, S.L.B.&M.

Qtr/Qtr Location: NE NW (Surface)

Date Surveyed:  
09-07-07

Date Drawn:  
09-25-07

Date Last Revision:  
08-04-09

Surveyed By: B.J.S..

Drawn By: M.W.W.

Scale: 1" = 60'

**Timberline**

(435) 789-1365

Engineering & Land Surveying, Inc.

209 NORTH 300 WEST VERNAL, UTAH 84078

SHEET

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August 19, 2009





**Proposed Surface Location:  
Ute Tribal 5-32-14-20**

#### LEGEND

- PROPOSED ACCESS ROAD  
 ■ ■ ■ ■ ■ = SUBJECT WELL  
 ■ ■ ■ ■ ■ = OTHER WELLS  
 — = EXISTING ROAD  
 — = EXISTING ROAD (TO BE IMPROVED)

(B-5460) = COUNTY ROAD CLASS & NUMBER

#### TOPOGRAPHIC MAP "A"

SCALE: 1:150,000

DRAWN BY: M.W.W.

DATE SURVEYED: 09-07-07

DATE DRAWN: 09-26-07

REVISED: 08-04-09

#### WHITING OIL AND GAS CORPORATION

**Ute Tribal 5-32-14-20**  
**SECTION 32, T14S, R20E, S.L.B.&M.**  
**809' FNL & 1529' FWL (Surface)**

**Timberline**

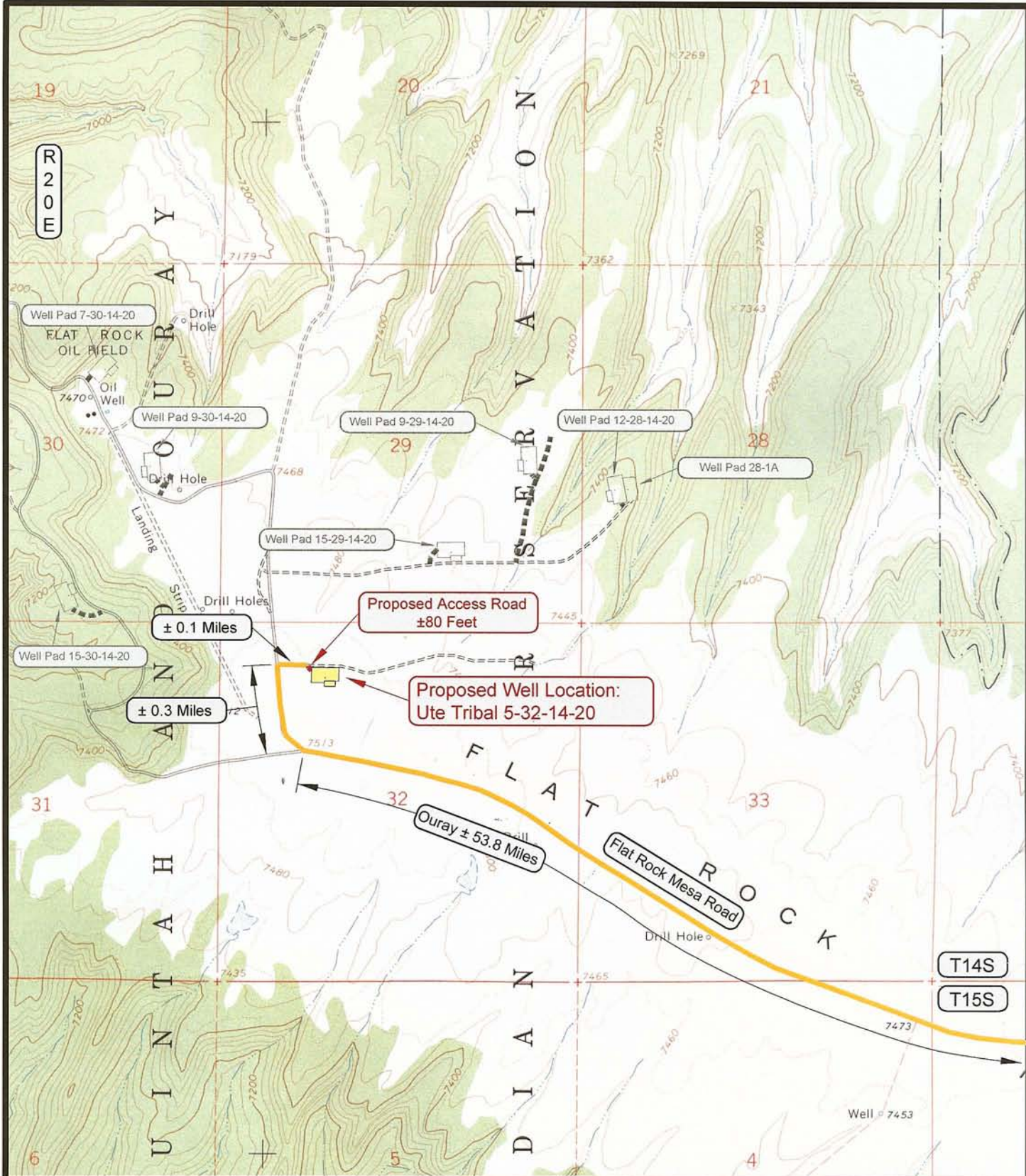
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#### LEGEND

- PROPOSED ACCESS ROAD  
 ■■■■ = SUBJECT WELL  
 ■■■■ = SHARED ACCESS  
 ——— = EXISTING ROAD  
 ——— = EXISTING ROAD (TO BE IMPROVED)  
 (B-5460) = COUNTY ROAD CLASS & NUMBER  
 ——— = LEASE LINE AND / OR PROPERTY LINE

#### TOPOGRAPHIC MAP "B"

SCALE: 1" = 2000'

DRAWN BY: M.W.W.

DATE SURVEYED: 09-07-07

DATE DRAWN: 09-26-07

REVISED: 08-04-09

#### WHITING OIL AND GAS CORPORATION

**Ute Tribal 5-32-14-20**  
**SECTION 32, T14S, R20E, S.L.B.&M.**  
**809' FNL & 1529' FWL (Surface)**

**Timberline**

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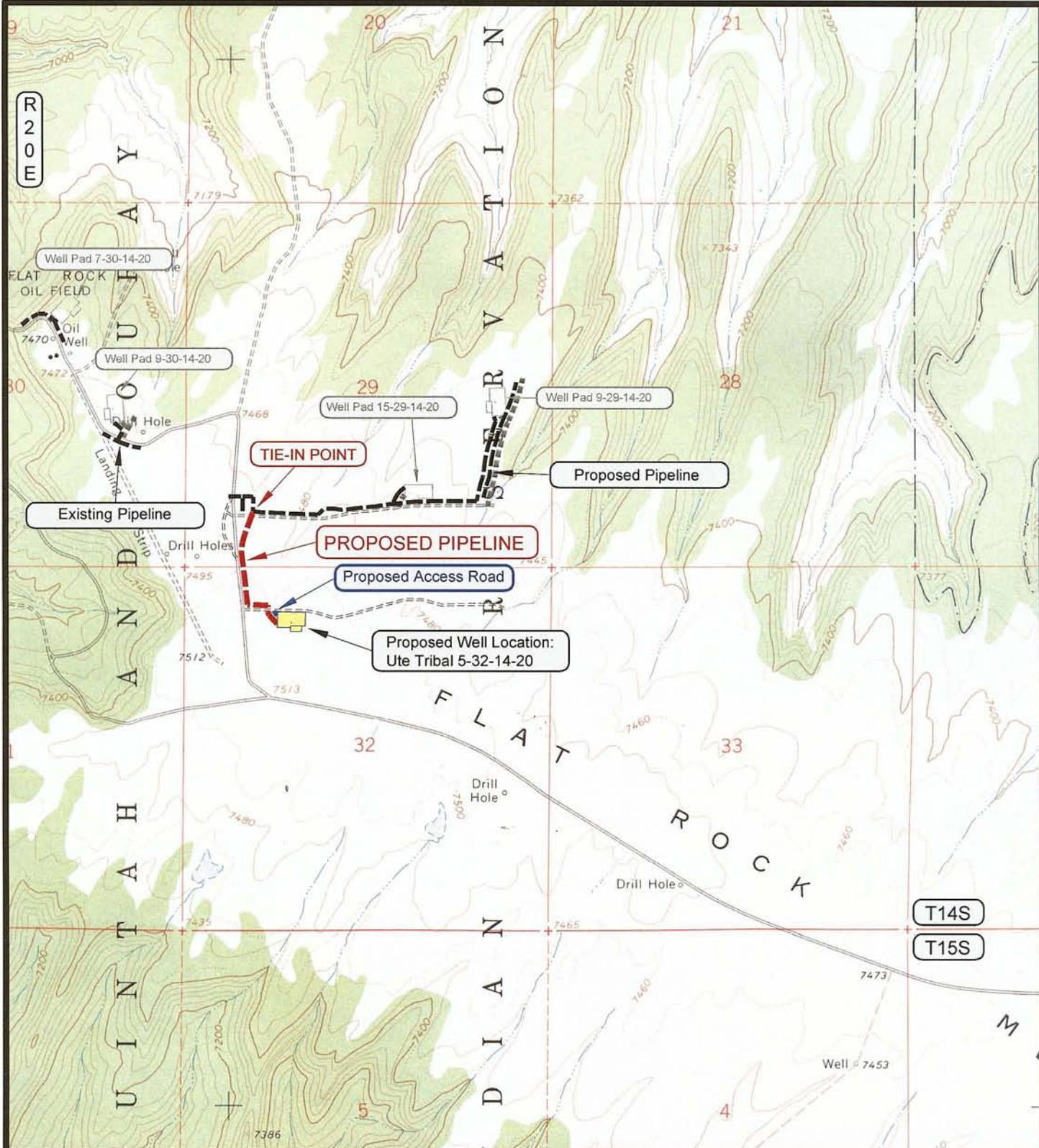
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**APPROXIMATE PIPELINE LENGTH = ±1,915 FEET**

#### LEGEND

- = PROPOSED PIPELINE
- = OTHER PIPELINE
- = PROPOSED ACCESS ROAD
- = SUBJECT WELL
- = OTHER WELLS
- = LEASE LINE AND / OR PROPERTY LINE

#### TOPOGRAPHIC MAP "D"

SCALE: 1" = 2000'

DRAWN BY: M.W.W.

DATE SURVEYED: 09-07-07

DATE DRAWN: 09-26-07

REVISED: 08-04-09

#### WHITING OIL AND GAS CORPORATION

**Ute Tribal 5-32-14-20**  
**SECTION 32, T14S, R20E, S.L.B.&M.**  
**809' FNL & 1529' FWL (Surface)**

**Timberline**

Engineering & Land Surveying, Inc.  
 209 NORTH 300 WEST VERNAL, UTAH 84078

(435) 789-1365

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August 19, 2009

## **Drilling Fluid Recommendations**

**for**

**WHITING OIL & GAS CORP EBUSINESS**

**Ute Tribal 5-32-14-20  
Ute Tribal  
Uintah County, Utah  
United States of America**

Submitted by:  
Joe Meier  
Halliburton Energy Services  
1125 17th Street Suite 1900  
Denver , Colorado 80202  
303-899-4751

August 10, 2009

**HALLIBURTON**

August 19, 2009



***Halliburton appreciates the opportunity to present  
this proposal and looks forward to being of service to you.***

### ***Program Briefing***

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Enclosed is our recommended procedure for Drilling Fluid Services in the referenced well. The information in this proposal includes well data, calculations, material requirements, and cost estimates.

This proposal is based on information from our field personnel, customer information and previous services in the area.

Halliburton appreciates the opportunity to present this proposal for your consideration and we look forward to being of service to you. Our Services for your well will be coordinated through the Service Center listed below.

If you require any additional information or additional designs, please feel free to contact myself or our field representatives listed below.

Prepared and Submitted by:

\_\_\_\_\_  
Joe Meier  
Technical Advisor

SERVICE CENTER: Vernal, UT  
SERVICE COORDINATOR: John Khoury  
OPER. ENGINEER:  
PHONE NUMBER: 435.219.1193

## Well Summary

### Well Data

Estimated Days on Well	21	Total Well Cost	
Maximum Density	9.50 ppg	Total Stock Point Cost	
Total Measured Depth	12038 ft	Total Fluids Cost	
True Vertical Depth	12038 ft	Total Charges Cost	
Maximum Deviation	20 DEG	Surface Solution Cost	
Max. Horz. Displacement		Engineer Services Cost	
Bottom Hole Temp	230 degF	Total Other Material Cost	
		Fluid Cost/Hole Drilled	
		Fluid Cost/Vol Drilled	
		Surface Solution Cost/Hole Drilled	
		Surface Solution Cost/Vol Drilled	

### Casing Design

Description	Top MD (ft)	Top TVD (ft)	End MD (ft)	End TVD (ft)	CSG ID (in)	CSG OD (in)	Bit Size (in)	Hole MD (ft)	Hole TVD (ft)
Surface	0	0	500	500	12.715	13.375	17.500	500	500
Intermediate	0	0	4615	4615	8.921	9.625	12.250	4615	4615
Production	0	0	11676	11676	6.184	7.000	8.750	11676	11676

### Fluid Program

Int #	Fluid Type	Interval Days	BHT (degF)	Max Density (ppg)	Whole Fluids + Mix Products	Other Material Charges	Other Charges	Total Interval Cost
Surface	Air	1		5				
Intermediate	AQUAGEL Spud Mud	7		8.60				
Production	KCl Polymer	11		9.50				
Open Hole Production	Aerated KCl Polymer	2	230	7.30				

**Fluid Properties****Ute Tribal 5-32-14-20****Air**

Name		Min	Max	Name	Min	Max
Density	ppg	0	5			

**AQUAGEL Spud Mud**

Name		Min	Max	Name	Min	Max
Yield Point	lbf/100_ft2	0	12	Plastic Viscosity	cp	15
pH		7	8.50	Funnel Viscosity	sec/qt	38
API Filtrate	mL/30min	10.00	50.00	Density	ppg	8.60

**KCl Polymer**

Name		Min	Max	Name	Min	Max
Yield Point	lbf/100_ft2	5	15	Funnel Viscosity	sec/qt	45
Plastic Viscosity	cp	5	20	API Filtrate	mL/30min	8.00
Density	ppg	8.60	9.50	pH		9

**Aerated KCl Polymer**

Name		Min	Max	Name	Min	Max
Funnel Viscosity	sec/qt	35	45	Yield Point	lbf/100_ft2	15
pH		8	9	Plastic Viscosity	cp	20
API Filtrate	mL/30min	5.00	8.00	Density	ppg	7.30

**Interval Summary**

<b>Surface</b>	<b>Hole Size</b>	<b>17.50 in</b>
----------------	------------------	-----------------

Interval Top MD/TVD	0 / 0 ft	Total Interval Cost	
Interval Bottom MD/TVD	500 / 500 ft	Other Material Cost	
Footage	500 ft	Total Fluids Cost	
Casing ID/OD	12.715 / 13.375 in	Total Charges Cost	
Casing Length	500 ft	Fluid Cost/Hole Drilled	
		Fluid Cost/Vol Drilled	
		Surface Solutions Cost/Hole Drilled	
		Surface Solutions Cost/Vol Drilled	

Washout %	0 %	Pit Volume	0 bbl
SCE	0 %	Dilution Volume	0 bbl
% Solids Retained (LGS)	0 %	Mud on Cuttings	0 %
Start Mud Weight	0 ppg	Maximum Deviation	0 DEG
End Mud Weight	0 ppg	Estimated BHT	0 degF
Carry Over Volume	0 bbl	Fluid Volume Required	148.75 bbl
Carry Over Weight	0 ppg	Weight Up Material Required	0 lbm

<b>Ticket: 0</b>	<b>Total</b>	<b>USD</b>
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United States of America  
Utah

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Utah

Baroid Fluid Services  
32-14S-20E  
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**Interval Discussion****Surface**

The 17 1/2" surface interval to the 13 3/8" casing point is programmed to be drilled with an air, mist, foam, or aerated LSND fluid. Severe lost circulation is expected in this interval. It is desirable to drill with air, mist, or foam as long as the formation permits; to limit costs and drilling fluid losses. Only convert the drilling fluid to an aerated LSND fluid as a last resort for hole stability or to hold back water flows.

If it is determined that an aerated fluid is needed for hole stability, it should be formulated with 10-15 ppb AQUAGEL, 0.50-0.75 ppb EZ-MUD, 0.25-0.50 ppb PAC R, and 0.25-0.50 ppb of BARAZAN D. Add caustic soda to control the pH between 9.0 and 9.5.

Losses will be encountered during this interval while drilling. Fibrous lost circulation material such as sawdust or BAROSEAL may be added into the active system. Concentrations may get as high as 35% by volume. A polymeric LCM such as DIAMOND SEAL can be added down the drill pipe at 1-2 quarts per connection.

Upon reaching interval total depth, circulate the hole clean prior to running surface casing.

**Interval Summary**

<b>Intermediate</b>	<b>Hole Size</b>	<b>12.25 in</b>
---------------------	------------------	-----------------

Interval Top MD/TVD	500 / 500 ft	Total Interval Cost	
Interval Bottom MD/TVD	4615 / 4615 ft	Other Material Cost	
Footage	4115 ft	Total Fluids Cost	
Casing ID/OD	8.921 / 9.625 in	Total Charges Cost	
Casing Length	4615 ft	Fluid Cost/Hole Drilled	
		Fluid Cost/Vol Drilled	
		Surface Solutions Cost/Hole Drilled	
		Surface Solutions Cost/Vol Drilled	

Washout %	10 %	Pit Volume	800 bbl
SCE	95 %	Dilution Volume	659.86 bbl
% Solids Retained (LGS)	5 %	Mud on Cuttings	0 %
Start Mud Weight	8.40 ppg	Maximum Deviation	10 DEG
End Mud Weight	8.50 ppg	Estimated BHT	0 degF
Carry Over Volume	0 bbl	Fluid Volume Required	2198.24 bbl
Carry Over Weight	0 ppg	Weight Up Material Required	8501.23 lbm

<b>Ticket: 0</b>	<b>Total</b>	<b>USD</b>
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Utah

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***Interval Discussion******Intermediate***

The 12 1/4" intermediate interval to the 9 5/8" casing point at 4,616' is programmed to be drilled with a conventional AQUAGEL spud mud paying particular attention to hole cleaning and maintaining fluid density as low as possible. Initially, the fluid can be formulated with 15 – 20 ppb AQUAGEL, lime, and EZ-MUD.

Alternatively, this interval can be spudded with air/ mist as the drilling fluid. As hole conditions require, mud up to the AQUAGEL system outlined in this section.

Additions of EZ-MUD made directly down the drill pipe on connections (2-3 gallons) will also aid in the hole cleaning process, provide additional inhibition and reduce the possibility of bit balling. The shale shakers should be closely monitored during this interval to assure proper hole cleaning.

High viscosity sweeps, 20-40 bbls, formulated with 15-20 ppb AQUAGEL and 0.50-0.75 ppb EZ-MUD should be circulated only as needed for hole cleaning purposes. Prior to making any trips trip out of the hole, 80 bbls of high viscosity AQUAGEL/ EZ-MUD sweep should be circulated.

Bit balling should not be an issue with the circulating rates and inhibition, but should the need arise; incorporate 10-15 ppb WALL-NUT in the above sweeps. Also, freshwater sweeps containing 2 ppb CON-DET will remove additional build-up from the bit.

Seepage losses may be encountered during this interval while drilling. Lost circulation material may be added to the high viscosity sweeps in the following concentrations: BARACARB 50 - 5 ppb, BARACARB 150 - 5 ppb, mica fine - 10 ppb, and BAROSEAL - 10 ppb. In the event of severe or complete losses, circulate or spot a 75 bbl pill containing 10-20 ppb BARACARB 150, 10-15 ppb mica fine, 20 ppb BAROSEAL. Discuss product concentrations and particle sizing with the Whiting drilling representative prior to circulating or spotting LCM pills.

Upon reaching interval total depth, circulate a 80 bbl high viscosity sweep and circulate the hole clean prior to running the surface casing.

**Interval Summary**

<b>Production</b>	<b>Hole Size</b>	<b>8.75 in</b>
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Interval Top MD/TVD	4615 / 4615 ft	Total Interval Cost	
Interval Bottom MD/TVD	11676 / 11676 ft	Other Material Cost	
Footage	7061 ft	Total Fluids Cost	
Casing ID/OD	6.184 / 7.000 in	Total Charges Cost	
Casing Length	11676 ft	Fluid Cost/Hole Drilled	
		Fluid Cost/Vol Drilled	
		Surface Solutions Cost/Hole Drilled	
		Surface Solutions Cost/Vol Drilled	

Washout %	10 %	Pit Volume	800 bbl
SCE	92 %	Dilution Volume	924.30 bbl
% Solids Retained (LGS)	5 %	Mud on Cuttings	0 %
Start Mud Weight	8.50 ppg	Maximum Deviation	20 DEG
End Mud Weight	9.50 ppg	Estimated BHT	0 degF
Carry Over Volume	0 bbl	Fluid Volume Required	2658.77 bbl
Carry Over Weight	0 ppg	Weight Up Material Required	105770.78 lbm

<b>Ticket: 0</b>	<b>Total</b>	<b>USD</b>
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 Utah

Baroid Fluid Services  
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**Interval Discussion****Production**

Upon drilling out of the intermediate shoe additions of 5-10 ppb AQUAGEL; 0.50-0.75 ppb EZ-MUD, 0.50-1.0 ppb PAC R, 0.50-1.0 ppb of BARAZAN D, and 10-12 ppb sack KCl should commence to achieve mud to a KCl polymer system. Maintain 3-5% KCl in the active system for wellbore stability. Add 4 ppb sack KCl for every 1% by weight increase in concentration. At 3%, the chloride concentration will be 14,500 mg/L.

Fluid properties will be maintained with YP and API filtration in the 5-15 lbs/ 100ft<sup>2</sup> and below 8 ml/ 30 min, respectively. EZ-MUD additions directly down the drill pipe for additional hole cleaning, inhibition and lubricity should continue during this portion of the interval.

Adjustments in fluid density will be made based on observed hole conditions. Closely monitor well bore conditions while drilling and following trips for any indications of increased pore pressure. Monitor annular hydraulics along with swab and surge pressures via DFG using latest drilling parameters.

The MBT and %LGS content should be closely monitored and maintained below 15.0 eppb and < 5%, respectively in order to limit the fluid density as low as possible to maximize penetration rates. Additions of BARAZAN D shall be made to keep the bentonite concentration of the fluid within the specified range. The finest screens possible should be run on the shakers and the de-silter and de-sander operated at the highest efficiency possible. Sand traps should be dumped regularly along with settling pits.

Seepage losses should be expected during this interval while drilling. Lost circulation material may be added to the high viscosity sweeps in the following concentrations: BARACARB 50 - 5 ppb, BARACARB 150 - 10 ppb, mica fine - 10 ppb, and BAROSEAL - 10 ppb. In the event of severe or complete losses, circulate or spot a 75 bbl pill containing 10-20 ppb BARACARB 150, 10-15 ppb mica fine, 20 ppb BAROSEAL. Discuss product concentrations and particle sizing with the Whiting drilling representative prior to circulating or spotting LCM pills.

Upon reaching total depth, condition and circulate the hole at least 2 bottoms up to prepare for logs and casing.

**Interval Summary**

<b>Open Hole Production</b>	<b>Hole Size</b>	<b>6.13 in</b>
-----------------------------	------------------	----------------

Interval Top MD/TVD	11676 / 11676 ft	Total Interval Cost	
Interval Bottom MD/TVD	12038 / 12038 ft	Other Material Cost	
Footage	362 ft	Total Fluids Cost	
Casing ID/OD		Total Charges Cost	
Casing Length		Fluid Cost/Hole Drilled	
		Fluid Cost/Vol Drilled	
		Surface Solutions Cost/Hole Drilled	
		Surface Solutions Cost/Vol Drilled	

Washout %	10 %	Pit Volume	800 bbl
SCE	95 %	Dilution Volume	14.51 bbl
% Solids Retained (LGS)	5 %	Mud on Cuttings	0 %
Start Mud Weight	9.50 ppg	Maximum Deviation	20 DEG
End Mud Weight	9.50 ppg	Estimated BHT	230 degF
Carry Over Volume	1000 bbl	Fluid Volume Required	262.78 bbl
Carry Over Weight	9.60 ppg	Weight Up Material Required	0 lbm

<b>Ticket: 0</b>	<b>Total</b>	<b>USD</b>
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United States of America  
Utah

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Utah

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***Interval Discussion******Open Hole Production***

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This final production interval will use a KCl polymer system engineered the same fashion as the previous interval, but the fluid will be aerated to reduce hydrostatic pressure. This 6 1/8" section will be drilled into the Entrada formation.

It is very critical that this interval is drilled at formation pressure or slightly underbalanced to minimize damage. The pressure gradient is expected to be 0.35 psi/ft. Since an air injection unit will be utilized, closely monitor wellbore conditions for possible signs of an influx.

Seepage losses should be expected during this interval while drilling with freshwater. Lost circulation material may be added to the high viscosity sweeps in the following concentrations: BARACARB 50 - 5 ppb, BARACARB 150 - 10 ppb, mica fine - 10 ppb, and BAROSEAL - 10 ppb. In the event of severe or complete losses, circulate or spot a 75 bbl pill containing 10-20 ppb BARACARB 150, 10-15 ppb mica fine, 20 ppb BAROSEAL. Discuss product concentrations and particle sizing with the Whiting drilling representative prior to circulating or spotting LCM pills.

Upon reaching total depth, circulate the hole and condition the drilling fluid for logging operations. A completion fluid may need to be prepared to leave in the wellbore since a final production string is not going to be run.

It will be desirable to reuse this KCl fluid from well to well. Before rigging down, shake out any LCM and prepare the fluid for storage. A treatment of biocide, such as ALDACIDE G, may be necessary to prevent degradation.

## Proposal Cost

Total Proposal Cost			
Total Stock Point Cost			
Total Fluids Cost			
Total Charges Cost			
Total Surface Solutions Cost			
Total Engineering Charges			
Total Other Material Cost			

SAP Material	Product	Units	Unit Price	Extended Price
101252566	AQUAGEL	579		
201068	Caustic Soda	18		
201099	ZEOGEL	479		
201215	EZ-MUD	29		
201312	BARACARB 150	38		
201318	BA.PAC-L - 50 LB BAG	18		
201319	BA.PAC-R - 50 LB BAG	41		
201368	BA.POTASSIUM CHLORIDE - 50 LB BAG	638		
201403	SEA MUD - 50 LB BAG	54		
201420	BA.SAW DUST - 20 LB BAG	67		
201435	MICA FINE	83		
201666	BARO-TROL PLUS	0		
201864	BA.PALLET - EA	36		
201866	BA.SHRINK WRAP (OR STRCH) - EA	36		
210994	BA.DM TECH SERVICE/MUD CHECK - 1 EA	24		
211375	BA.TRANSPORTATION - 1 EA	6		
342065	BA.BARO-SEAL CLASSIC - 40 LB BAG	129		
478096	BAROID 41	1138		

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Baroid Fluid Services  
 32-14S-20E  
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## **Conditions**

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### **NOTE**

The cost in this analysis is good for the materials and/or services outlined within. In order to meet your needs under this proposal with a high quality of service and responsive timing, Halliburton will be allocating limited resources and committing valuable equipment and materials to your area of operations. Accordingly, the discounts reflected in this proposal are available only for materials and services awarded on a first-call basis. Alternate pricing may apply in the event that Halliburton is awarded work on any basis other than as a first-call provider.

The unit prices stated in the proposal are based on our current published prices. The projected equipment, personnel, and material needs are only estimates based on information about the work presently available to us. At the time the work is actually performed, conditions then existing may require an increase or decrease in the equipment, personnel, and/or material needs. Charges will be based upon unit prices in effect at the time the work is performed and the amount of equipment, personnel, and/or material actually utilized in the work. Taxes, if any, are not included. Applicable taxes, if any, will be added to the actual invoice.

It is understood and agreed between the parties that with the exception of the subject discounts, all services performed and equipment and materials sold are provided subject to Halliburton's General Terms and Conditions contained in our current price list, (which include LIMITATION OF LIABILITY and WARRANTY provisions), and pursuant to the applicable Halliburton Work Order Contract (whether or not executed by you), unless a Master Service and/or Sales Contract applicable to the services, equipment, or materials supplied exists between your company and Halliburton, in which case the negotiated Master Contract shall govern the relationship between the parties. A copy of the latest version of our General Terms and Conditions is available from your Halliburton representative or at:

[http://www.halliburton.com/hes/general\\_terms\\_conditions.pdf](http://www.halliburton.com/hes/general_terms_conditions.pdf) for your convenient review, and we would appreciate receiving any questions you may have about them. Should your company be interested in negotiating a Master Contract with Halliburton, our Law Department would be pleased to work with you to finalize a mutually agreeable contract. In this connection, it is also understood and agreed that Customer will continue to execute Halliburton usual field work orders and/or tickets customarily required by Halliburton in connection with the furnishing of said services, equipment, and materials.

Any terms and conditions contained in purchase orders or other documents issued by the customer shall be of no effect except to confirm the type and quantity of services, equipment, and materials to be supplied to the customer.

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Customer agrees to pay interest on any unpaid balance from the date payable until paid at the highest lawful contract rate applicable, but never to exceed 18% per annum. In the event Halliburton employs an attorney for collection of any account, customer agrees to pay attorney fees of 20% of the unpaid account, plus all collection and court costs.

# **HALLIBURTON**

Whiting Oil & Gas Corp Ebusiness  
Do Not Mail - 1700 Broadway Ste2300  
Denver, Colorado 80290

Ute Tribal 5-32-14-20  
Flat Rock Field  
Uintah County, Utah  
United States of America  
S:32 T:14S R:20E  
API/UWI 43-047-39741-00

## **Multiple String Cement Recommendation**

Prepared for: Mr. Dana Greathouse

August 9, 2009  
Version: 1

Submitted by:  
Matt Collins  
Halliburton  
1125 17th Street #1900  
Denver, Colorado 80202  
303.501.9557

***Halliburton appreciates the opportunity to present  
this proposal and looks forward to being of service to you.***

## **Foreword**

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Enclosed is our recommended procedure for cementing the casing strings in the referenced well. The information in this proposal includes well data, calculations, materials requirements, and cost estimates. This proposal is based on information from our field personnel and previous cementing services in the area.

Halliburton Energy Services recognizes the importance of meeting society's needs for health, safety, and protection of the environment. It is our intention to proactively work with employees, customers, the public, governments, and others to use natural resources in an environmentally sound manner while protecting the health, safety, and environmental processes while supplying high quality products and services to our customers.

We appreciate the opportunity to present this proposal for your consideration and we look forward to being of service to you. Our Services for your well will be coordinated through the Service Center listed below. If you require any additional information or additional designs, please feel free to contact myself or our field representative listed below.

Prepared and Submitted by:

\_\_\_\_\_  
Matt Collins  
Technical Advisor

SERVICE CENTER:	Vernal
SERVICE COORDINATOR:	Weston Spencer / Cody Slaugh
PSL DISTRICT MANAGER:	Christopher Jerez
PDC:	Jason Bergin / Corey Reynolds
CMT ENGINEERS:	Chris Cicirello / Sean Bullington
	Ted Groff
PHONE NUMBER:	435.789.2550

## Cementing Best Practices

1. Cement quality and weight: You must choose a cement slurry that is designed to solve the problems specific to each casing string.
2. Waiting time: You must hold the cement slurry in place and under pressure until it reaches its' initial set without disturbing it. A cement slurry is a time-dependent liquid and must be allowed to undergo a hydration reaction to produce a competent cement sheath. A fresh cement slurry can be worked (thickening or pump time) as long as it is in a plastic state and before going through its' transition phase. If the cement slurry is not allowed to transition without being disturbed, it may be subjected to changes in density, dilution, settling, water separation, and gas cutting that may lead to a lack of zonal isolation and possible bridging in the annulus.
3. Pipe movement: Pipe movement may be one of the single most influential factors in mud removal. Reciprocation and/or rotation mechanically breaks up gelled mud and changes the flow patterns in the annulus to improve displacement efficiency.
4. Mud properties (for cementing):  
**Rheology:**  
Plastic Viscosity (PV) < 15 centipoise (cp)  
Yield Point (YP) < 10 lb/100 ft<sup>2</sup>  
These properties should be reviewed with the Mud Engineer, Drilling Engineer, and Company Representative(s) to ensure no hole problems are created.  
**Gel Strength:**  
The 10-second/10-minute gel strength values should be such that the 10-second and 10-minute readings are close together or flat (i.e., 5/6). The 30-minute reading should be less than 20 lb/100 ft<sup>2</sup>. Sufficient shear stress may not be achieved on a primary cement job to remove mud left in the hole if the mud were to develop more than 25 lb/100 ft<sup>2</sup> of gel strength.  
**Fluid Loss:**  
Decreasing the filtrate loss into a permeable zone enhances the creation of a thin, competent filter cake. A thin, competent filter cake created by a low fluid loss mud system is desirable over a thick, partially gelled filter cake. A mud system created with a low fluid loss will be more easily displaced. The fluid loss value should be < 15 cc's (ideal would be 5 cc's).
5. Circulation: Prior to cementing circulate full hole volume twice, or until well conditioned mud is being returned to the surface. There should be no cutting in the mud returns. An annular velocity of 260 feet per minute is optimum (SPE/IADC 18617), if possible.
6. Flow rate: Turbulent flow is the most desirable flow regime for mud removal. If turbulence cannot be achieved pump at as high a flow rate that can practically and safely be used to create the maximum flow energy. The highest mud removal is achieved when the maximum flow energy is obtained.
7. Pipe Centralization: This Cement will take the path of least resistance, therefore proper centralization is important to help prevent the casing from contacting the borehole wall. A minimum standoff of 70% should be targeted for optimum displacement efficiency.
8. Rat hole: A weighted viscous pill placed in the rat hole prior to cementing will minimize the risk of higher density cement mixing with lower density mud when the well is static.
9. Top and Bottom plugs: A top and bottom plug are recommended to be run on all primary casing jobs. The bottom plug should be run after the spacer and ahead of the first cement slurry.
10. Spacers and flushes: Spacers and/or flushes should be used to prevent contamination between the cement slurry and the drilling fluid. They are also used to clean the wellbore and aid with bonding. To determine the volume, either a minimum of 10 minutes contact time or 1000 ft. of annular fill, whichever is greater, is recommended.



## ***Job Information***

## ***13 3/8" Casing***

---

Well Name: Ute Tribal

Well #: 5-32-14-20

20" Conductor	0 - 80 ft (MD)
Outer Diameter	20.000 in
Inner Diameter	19.124 in
Linear Weight	94 lbm/ft
Casing Grade	H-40

17 1/2" Open Hole	80 - 500 ft (MD)
Inner Diameter	17.500 in
Job Excess	100 %

13 3/8" Surface Casing	0 - 500 ft (MD)
Outer Diameter	13.375 in
Inner Diameter	12.715 in
Linear Weight	48 lbm/ft
Casing Grade	H-40

**Calculations****13 3/8" Casing**

---

Spacer:

$$\begin{aligned}\text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl}\end{aligned}$$

Cement : (500.00 ft fill)

$$\begin{aligned}80.00 \text{ ft} * 1.019 \text{ ft}^3/\text{ft} * 0 \% &= 81.52 \text{ ft}^3 \\ 420.00 \text{ ft} * 0.6946 \text{ ft}^3/\text{ft} * 100 \% &= 583.50 \text{ ft}^3 \\ \text{Lead Cement} &= 665.02 \text{ ft}^3 \\ &= 118.44 \text{ bbl}\end{aligned}$$

Shoe Joint Volume: (40.00 ft fill)

$$\begin{aligned}40.00 \text{ ft} * 0.8818 \text{ ft}^3/\text{ft} &= 35.27 \text{ ft}^3 \\ &= 6.28 \text{ bbl} \\ \text{Tail plus shoe joint} &= 700.29 \text{ ft}^3 \\ &= 124.73 \text{ bbl} \\ \text{Total Tail} &= 389 \text{ sks}\end{aligned}$$

Total Pipe Capacity:

$$\begin{aligned}500.00 \text{ ft} * 0.8818 \text{ ft}^3/\text{ft} &= 440.89 \text{ ft}^3 \\ &= 78.53 \text{ bbl}\end{aligned}$$

Displacement Volume to Shoe Joint:

$$\begin{aligned}\text{Capacity of Pipe - Shoe Joint} &= 78.53 \text{ bbl} - 6.28 \text{ bbl} \\ &= 72.24 \text{ bbl}\end{aligned}$$

**Job Recommendation****13 3/8" Casing**

## Fluid Instructions

Fluid 1: Water Spacer

Gel Water

Fluid Density: 8.34 lbm/gal

Fluid Volume: 20 bbl

## Fluid 2: Lead Cement

Rockies LT

0.25 lbm/sk Kwik Seal (Lost Circulation Additive)

0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Fluid Weight 13.50 lbm/gal

Slurry Yield: 1.80 ft<sup>3</sup>/sk

Total Mixing Fluid: 9.33 Gal/sk

Top of Fluid: 0 ft

Calculated Fill: 500 ft

Volume: 124.73 bbl

Calculated Sacks: 389.05 sks

Proposed Sacks: 390 sks

## Fluid 3: Water Spacer

Water Displacement

Fluid Density: 8.34 lbm/gal

Fluid Volume: 72.24 bbl

## Fluid 4: Top Out Cement

Premium Plus - Type III

94 lbm/sk Premium Plus - Type III (Cement-non-api)

2 % Calcium Chloride (Accelerator)

Fluid Weight 14.50 lbm/gal

Slurry Yield: 1.41 ft<sup>3</sup>/sk

Total Mixing Fluid: 6.86 Gal/sk

Proposed Sacks: 200 sks

**Detailed Pumping Schedule**

Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Estimated Avg Rate bbl/min	Downhole Volume
1	Spacer	Gel Water	8.3		20 bbl
2	Cement	Primary Cement	13.5		390 sks
3	Spacer	Water Displacement	8.3		72.24 bbl
4	Cement	Top Out Cement	14.5		200 sks

## ***Job Information***

## ***9 5/8" Casing***

---

Well Name: Ute Tribal

Well #: 5-32-14-20

13 3/8" Surface Casing	0 - 500 ft (MD)
Outer Diameter	13.375 in
Inner Diameter	12.715 in
Linear Weight	48 lbm/ft
Casing Grade	H-40

12 1/4" Open Hole	500 - 4615 ft (MD)
Inner Diameter	12.250 in
Job Excess	75 %

9 5/8" Intermediate Casing	0 - 4615 ft (MD)
Outer Diameter	9.625 in
Inner Diameter	8.921 in
Linear Weight	36 lbm/ft
Casing Grade	J-55

**Calculations****9 5/8" Casing**

Spacer:

$$\begin{aligned}\text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl}\end{aligned}$$

Spacer:

$$\begin{aligned}2.00 \text{ ft} * 0.3765 \text{ ft}^3/\text{ft} * 0 \% &= 0.75 \text{ ft}^3 \\ \text{Total Spacer} &= 224.58 \text{ ft}^3 \\ &= 40.00 \text{ bbl}\end{aligned}$$

Spacer:

$$\begin{aligned}298.00 \text{ ft} * 0.3765 \text{ ft}^3/\text{ft} * 0 \% &= 112.20 \text{ ft}^3 \\ \text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl}\end{aligned}$$

Cement : (3815.00 ft fill)

$$\begin{aligned}200.00 \text{ ft} * 0.3765 \text{ ft}^3/\text{ft} * 0 \% &= 75.30 \text{ ft}^3 \\ 3615.00 \text{ ft} * 0.3132 \text{ ft}^3/\text{ft} * 75 \% &= 1981.30 \text{ ft}^3 \\ \text{Total Lead Cement} &= 2056.60 \text{ ft}^3 \\ &= 366.30 \text{ bbl} \\ \text{Sacks of Cement} &= 539 \text{ sks}\end{aligned}$$

Cement : (500.00 ft fill)

$$\begin{aligned}500.00 \text{ ft} * 0.3132 \text{ ft}^3/\text{ft} * 75 \% &= 274.04 \text{ ft}^3 \\ \text{Tail Cement} &= 274.04 \text{ ft}^3 \\ &= 48.81 \text{ bbl}\end{aligned}$$

Shoe Joint Volume: (40.00 ft fill)

$$\begin{aligned}40.00 \text{ ft} * 0.4341 \text{ ft}^3/\text{ft} &= 17.36 \text{ ft}^3 \\ &= 3.09 \text{ bbl} \\ \text{Tail plus shoe joint} &= 291.40 \text{ ft}^3 \\ &= 51.90 \text{ bbl} \\ \text{Total Tail} &= 253 \text{ sks}\end{aligned}$$

Total Pipe Capacity:

$$\begin{aligned}4615.00 \text{ ft} * 0.4341 \text{ ft}^3/\text{ft} &= 2003.21 \text{ ft}^3 \\ &= 356.79 \text{ bbl}\end{aligned}$$

Displacement Volume to Shoe Joint:

$$\begin{aligned}\text{Capacity of Pipe - Shoe Joint} &= 356.79 \text{ bbl} - 3.09 \text{ bbl} \\ &= 353.69 \text{ bbl}\end{aligned}$$

**Job Recommendation****9 5/8" Casing**

## Fluid Instructions

## Fluid 1: Water Spacer

Fresh Water

Fluid Density: 8.34 lbm/gal

Fluid Volume: 20 bbl

## Fluid 2: Reactive Spacer

SUPER FLUSH 101

Fluid Density: 10 lbm/gal

Fluid Volume: 40 bbl

## Fluid 3: Water Spacer

Fresh Water

Fluid Density: 8.34 lbm/gal

Fluid Volume: 20 bbl

## Fluid 4: Lead Cement

ECONOCEM (TM) SYSTEM

0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Fluid Weight 11 lbm/gal

Slurry Yield: 3.81 ft<sup>3</sup>/sk

Total Mixing Fluid: 23.01 Gal/sk

Top of Fluid: 300 ft

Calculated Fill: 3815 ft

Volume: 366.30 bbl

Calculated Sacks: 539.22 sks

Proposed Sacks: 540 sks

## Fluid 5: Tail Cement

Premium Cement

94 lbm/sk Premium Cement (Cement)

0.3 % Halad(R)-344 (Low Fluid Loss Control)

0.25 % CFR-3 (Dispersant)

0.35 % HR-5 (Retarder)

0.2 % Super CBL (Gas Migration Control)

Fluid Weight 15.80 lbm/gal

Slurry Yield: 1.15 ft<sup>3</sup>/sk

Total Mixing Fluid: 4.94 Gal/sk

Top of Fluid: 4115 ft

Calculated Fill: 500 ft

Volume: 51.90 bbl

Calculated Sacks: 252.95 sks

Proposed Sacks: 255 sks

## Fluid 6: Mud

Mud Displacement

Fluid Density: 10 lbm/gal

Fluid Volume: 353.69 bbl

**Detailed Pumping Schedule**

Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Estimated Avg Rate bbl/min	Downhole Volume
1	Spacer	Fresh Water	8.3		20 bbl
2	Spacer	SUPER FLUSH 101	10.0		40 bbl
3	Spacer	Fresh Water	8.3		20 bbl
4	Cement	EconoCem V3	11.0		540 sks
5	Cement	Premium Cement	15.8		255 sks
6	Mud	Mud Displacement	10.0		353.69 bbl



## ***Job Information***

## ***7" Casing***

Well Name: Ute Tribal

Well #: 5-32-14-20

### 9 5/8" Intermediate Casing

0 - 4615 ft (MD)

Outer Diameter

9.625 in

Inner Diameter

8.921 in

Linear Weight

36 lbm/ft

Casing Grade

J-55

### 8 3/4" Open Hole

4615 - 11676 ft (MD)

Inner Diameter

8.750 in

Job Excess

40 %

### 7" Production Casing

0 - 11676 ft (MD)

Outer Diameter

7.000 in

Inner Diameter

6.184 in

Linear Weight

29 lbm/ft

Casing Grade

L-80

**Calculations****7" Casing**

---

Spacer:

$$\begin{aligned} 337.00 \text{ ft} * 0.1668 \text{ ft}^3/\text{ft} * 0 \% &= 56.22 \text{ ft}^3 \\ \text{Total Spacer} &= 56.15 \text{ ft}^3 \\ &= 10.00 \text{ bbl} \end{aligned}$$

Spacer:

$$\begin{aligned} 673.00 \text{ ft} * 0.1668 \text{ ft}^3/\text{ft} * 0 \% &= 112.26 \text{ ft}^3 \\ \text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl} \end{aligned}$$

Spacer:

$$\begin{aligned} 337.00 \text{ ft} * 0.1668 \text{ ft}^3/\text{ft} * 0 \% &= 56.22 \text{ ft}^3 \\ \text{Total Spacer} &= 56.15 \text{ ft}^3 \\ &= 10.00 \text{ bbl} \end{aligned}$$

Cement : (5017.00 ft fill)

$$\begin{aligned} 200.00 \text{ ft} * 0.1668 \text{ ft}^3/\text{ft} * 0 \% &= 33.36 \text{ ft}^3 \\ 4817.00 \text{ ft} * 0.1503 \text{ ft}^3/\text{ft} * 40 \% &= 1013.80 \text{ ft}^3 \\ \text{Total Foamed Lead Cement} &= 1047.16 \text{ ft}^3 \\ &= 186.51 \text{ bbl} \\ \text{Sacks of Cement} &= 523 \text{ sks} \end{aligned}$$

Cement : (2244.00 ft fill)

$$\begin{aligned} 2244.00 \text{ ft} * 0.1503 \text{ ft}^3/\text{ft} * 40 \% &= 472.28 \text{ ft}^3 \\ \text{Tail Cement} &= 472.28 \text{ ft}^3 \\ &= 84.12 \text{ bbl} \end{aligned}$$

Shoe Joint Volume: (40.00 ft fill)

$$\begin{aligned} 40.00 \text{ ft} * 0.2086 \text{ ft}^3/\text{ft} &= 8.34 \text{ ft}^3 \\ &= 1.49 \text{ bbl} \\ \text{Tail plus shoe joint} &= 480.62 \text{ ft}^3 \\ &= 85.60 \text{ bbl} \\ \text{Total Tail} &= 327 \text{ sks} \end{aligned}$$

Total Pipe Capacity:

$$\begin{aligned} 11676.00 \text{ ft} * 0.2086 \text{ ft}^3/\text{ft} &= 2435.34 \text{ ft}^3 \\ &= 433.75 \text{ bbl} \end{aligned}$$

Displacement Volume to Shoe Joint:

$$\begin{aligned} \text{Capacity of Pipe - Shoe Joint} &= 433.75 \text{ bbl} - 1.49 \text{ bbl} \\ &= 432.27 \text{ bbl} \end{aligned}$$

**Job Recommendation****7" Casing**

## Fluid Instructions

Fluid 1: Water Spacer

Fresh Water

Fluid Density: 8.34 lbm/gal

Fluid Volume: 10 bbl

Fluid 2: Reactive Spacer

SUPER FLUSH

Fluid Density: 10 lbm/gal

Fluid Volume: 20 bbl

Fluid 3: Water Spacer

Fresh Water

Fluid Density: 8.34 lbm/gal

Fluid Volume: 10 bbl

Fluid 4: Foamed Lead Cement

ELASTISEAL (TM) SYSTEM

1.5 % FDP-C760-04 (Foamer)

Fluid Weight 14.30 lbm/gal

Slurry Yield: 1.47 ft<sup>3</sup>/sk

Total Mixing Fluid: 6.41 Gal/sk

Top of Fluid: 4415 ft

Calculated Fill: 5017 ft

Volume: 186.51 bbl

Calculated Sacks: 523.06 sks

Proposed Sacks: 525 sks

Fluid 5: Tail Cement

ELASTICEM (TM) SYSTEM

Fluid Weight 14.30 lbm/gal

Slurry Yield: 1.47 ft<sup>3</sup>/sk

Total Mixing Fluid: 6.40 Gal/sk

Top of Fluid: 9432 ft

Calculated Fill: 2244 ft

Volume: 85.60 bbl

Calculated Sacks: 327.17 sks

Proposed Sacks: 330 sks

Fluid 6: Water Spacer

Displacement

Fluid Density: 8.34 lbm/gal

Fluid Volume: 432.27 bbl

Fluid 7: Top Out Cement

Premium Cement

94 lbm/sk Premium Cement (Cement)

12 % Cal-Seal 60 (Accelerator)

3 % Calcium Chloride (Accelerator)

Fluid Weight 14.60 lbm/gal

Slurry Yield: 1.55 ft<sup>3</sup>/sk

Total Mixing Fluid: 7.35 Gal/sk

Proposed Sacks: 200 sks

**Detailed Pumping Schedule**

Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Estimated Avg Rate bbl/min	Downhole Volume
1	Spacer	Fresh Water	8.3		10 bbl
2	Spacer	SUPER FLUSH	10.0		20 bbl
3	Spacer	Fresh Water	8.3		10 bbl
4	Cement	ELASTISEAL SYSTEM	14.3		525 sks
5	Cement	ELASTISEAL SYSTEM	14.3		330 sks
6	Spacer	Displacement	8.3		432.27 bbl
7	Cement	Cap Cement	14.6		200 sks

**Foam Output Parameter Summary:**

Fluid #	Fluid Name	Unfoamed Liquid Volume	Beginning Density lbm/gal	Ending Density lbm/gal	Beginning Rate scf/bbl	Ending Rate scf/bbl
<b>Stage 1</b>						
4	ELASTISEAL SYSTEM	136.95bbl	11.0	11.0	236.2	531.6

**Foam Design Specifications:**

Foam Calculation Method: Constant Density  
Backpressure: 75 psig  
Bottom Hole Circulating Temp: 180 degF  
Mud Outlet Temperature: 120 degF

Calculated Gas = 53177.0 scf  
Additional Gas = 40000 scf  
Total Gas = 93177.0 scf

## **Conditions**

---

### **NOTE**

The cost in this analysis is good for the materials and/or services outlined within and shall be valid for 30 days from the date of this proposal. In order to meet your needs under this proposal with a high quality of service and responsive timing, Halliburton will be allocating limited resources and committing valuable equipment and materials to your area of operations. Accordingly, the discounts reflected in this proposal are available only for materials and services awarded on a first-call basis. Alternate pricing may apply in the event that Halliburton is awarded work on any basis other than as a first-call provider.

The unit prices stated in the proposal are based on our current published prices. The projected equipment, personnel, and material needs are only estimates based on information about the work presently available to us. At the time the work is actually performed, conditions then existing may require an increase or decrease in the equipment, personnel, and/or material needs. Charges will be based upon unit prices in effect at the time the work is performed and the amount of equipment, personnel, and/or material actually utilized in the work. Taxes, if any, are not included. Applicable taxes, if any, will be added to the actual invoice.

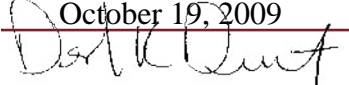
It is understood and agreed between the parties that with the exception of the subject discounts, all services performed and equipment and materials sold are provided subject to Halliburton's General Terms and Conditions contained in our current price list, (which include LIMITATION OF LIABILITY and WARRANTY provisions), and pursuant to the applicable Halliburton Work Order Contract (whether or not executed by you), unless a Master Service and/or Sales Contract applicable to the services, equipment, or materials supplied exists between your company and Halliburton, in which case the negotiated Master Contract shall govern the relationship between the parties. A copy of the latest version of our General Terms and Conditions is available from your Halliburton representative or at:

[http://www.halliburton.com/hes/general\\_terms\\_conditions.pdf](http://www.halliburton.com/hes/general_terms_conditions.pdf) for your convenient review, and we would appreciate receiving any questions you may have about them. Should your company be interested in negotiating a Master Contract with Halliburton, our Law Department would be pleased to work with you to finalize a mutually agreeable contract. In this connection, it is also understood and agreed that Customer will continue to execute Halliburton usual field work orders and/or tickets customarily required by Halliburton in connection with the furnishing of said services, equipment, and materials.

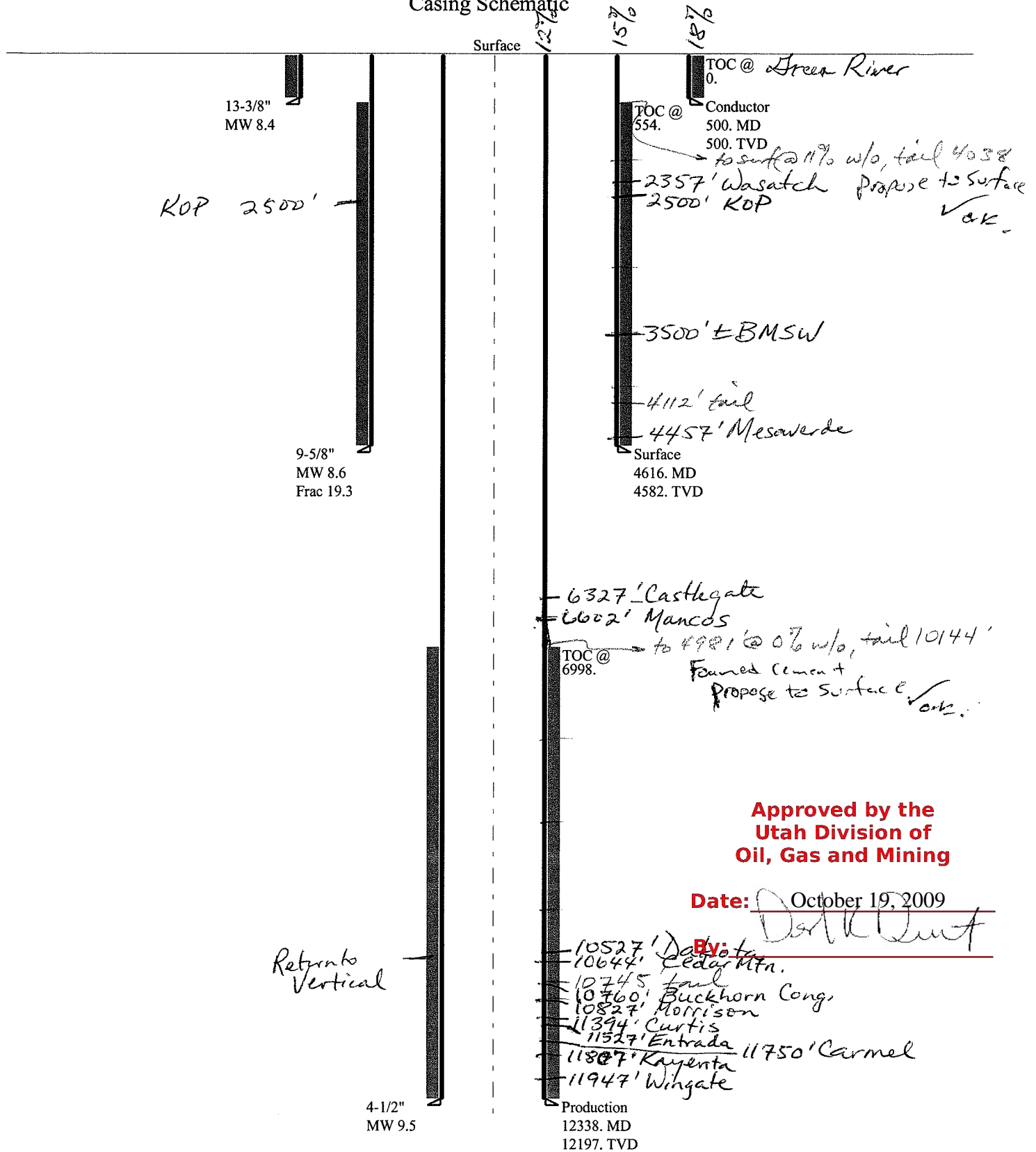
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<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-44317			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE			
<b>2. NAME OF OPERATOR:</b> WHITING OIL & GAS CORPORATION		<b>7. UNIT or CA AGREEMENT NAME:</b>			
<b>3. ADDRESS OF OPERATOR:</b> 1700 Broadway, Suite 2300 , Denver, CO, 80290 2300		<b>8. WELL NAME and NUMBER:</b> UTE TRIBAL 5-32-14-20			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0809 FNL 1529 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 32 Township: 14.0S Range: 20.0E Meridian: S		<b>9. API NUMBER:</b> 43047397410000			
<b>PHONE NUMBER:</b> 303 390-4095 Ext		<b>9. FIELD and POOL or WILDCAT:</b> FLAT ROCK			
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 11/1/2009  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input checked="" type="checkbox"/> <b>ALTER CASING</b>  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER:         </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input checked="" type="checkbox"/> <b>ALTER CASING</b> <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER:
<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input checked="" type="checkbox"/> <b>ALTER CASING</b> <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER:			
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> Whiting Oil and Gas is requesting to change this well from a high angle openhole completion to an S-curve directional in the Wingate formation. This will cause a change in the casing size which is addressed in the attached drilling plan. There is NO change to the SHL or BHL, both of which will stay the same. Attached please find revised Drilling Plans, Directional Drilling Plans, and a Multiple String Cement Recommendation.					
<b>Approved by the Utah Division of Oil, Gas and Mining</b>  <b>Date:</b> October 19, 2009 <b>By:</b> 					
<b>NAME (PLEASE PRINT)</b> Terri Hartle		<b>PHONE NUMBER</b> 435 896-5501			
<b>TITLE</b> Admin/Regulatory (Western Land Services)		<b>DATE</b> 10/14/2009			
<b>SIGNATURE</b> N/A					

Casing Schematic



Approved by the  
Utah Division of  
Oil, Gas and Mining

Date: October 19, 2009

By:

*[Signature]*

Well name:	<b>43047397410000 Ute Tribal 5-32-14-20rev</b>	
Operator:	<b>Whiting Oil and Gas</b>	
String type:	Conductor	Project ID: 43-047-39741-0000
Location:	Uintah County	

**Design parameters:**
**Collapse**

Mud weight: 8.400 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**
**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 75 °F  
Bottom hole temperature: 82 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 300 ft

Cement top: Surface

**Burst**

Max anticipated surface pressure: 158 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 218 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

**Non-directional string.**

Tension is based on buoyed weight.

Neutral point: 439 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	500	13.375	48.00	H-40	ST&C	500	500	12.59	440.9
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	218	740	3.392	218	1730	7.93	21	322	15.30 J

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Date:** October 19, 2009

**By:** 

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801-538-5357  
FAX: 801-359-3940

Date: October 19, 2009  
Salt Lake City, Utah

formerly 2007-11 Miller Dyer Ute Tribal 3-

Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Collapse is based on a vertical depth of 500 ft, a mud weight of 8.4 ppg The casing is considered to be evacuated for collapse purposes.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*



Well name:	<b>43047397410000 Ute Tribal 5-32-14-20rev</b>	
Operator:	<b>Whiting Oil and Gas</b>	Project ID:
String type:	<b>Surface</b>	<b>43-047-39741-0000</b>
Location:	<b>Uintah County</b>	

**Design parameters:**
**Collapse**

Mud weight: 8.600 ppg  
Internal fluid density: 1.500 ppg

**Minimum design factors:**
**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 75 °F  
Bottom hole temperature: 139 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 300 ft

Cement top: 554 ft

**Burst**

Max anticipated surface pressure: 2,766 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 3,774 psi  
  
Annular backup: 1.00 ppg

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Tension is based on buoyed weight.  
Neutral point: 4,021 ft

**Directional well information:**

Kick-off point 2500 ft  
Departure at shoe: 362 ft  
Maximum dogleg: 2 °/100ft  
Inclination at shoe: 11.38 °

**Re subsequent strings:**

Next setting depth: 12,197 ft  
Next mud weight: 8.600 ppg  
Next setting BHP: 5,449 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 4,582 ft  
Injection pressure: 4,582 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	4616	9.625	36.00	J-55	LT&C	4582	4616	8.796	2003.6

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	1690	2020	1.195	3536	3520	1.00	144	453	3.15 J

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Date:** October 19, 2009

**By:** 

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801-538-5357  
FAX: 801-359-3940

Date: October 19, 2009  
Salt Lake City, Utah

formerly 2007-11 Miller Dyer Ute Tribal 3-

Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Collapse is based on a vertical depth of 4582 ft, a mud weight of 8.6 ppg. An internal gradient of .078 psi/ft was used for collapse from TD to

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

*Engineering responsibility for use of this design will be that of the purchaser.*

Well name:	<b>43047397410000 Ute Tribal 5-32-14-20rev</b>		
Operator:	<b>Whiting Oil and Gas</b>		
String type:	<b>Production</b>	Project ID:	<b>43-047-39741-0000</b>
Location:	<b>Uintah County</b>		

**Design parameters:**
**Collapse**

Mud weight: 9.500 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**
**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 75 °F  
Bottom hole temperature: 246 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,500 ft

Cement top: 6,998 ft

**Burst**

Max anticipated surface pressure: 3,336 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 6,019 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

**Directional Info - Build & Drop**

Kick-off point 2500 ft  
Departure at shoe: 1462 ft  
Maximum dogleg: 2 °/100ft  
Inclination at shoe: 0 °

Tension is based on buoyed weight.

Neutral point: 10,606 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	12338	4.5	11.60	P-110	LT&C	12197	12338	3.875	1076.7
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	6019	7580	1.259	6019	10690	1.78	121	279	2.30 J

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Date:** October 19, 2009

**By:** 

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801-538-5357  
FAX: 801-359-3940

Date: October 19, 2009  
Salt Lake City, Utah

formerly 2007-11 Miller Dyer Ute Tribal 3-

Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Collapse is based on a vertical depth of 12197 ft, a mud weight of 9.5 ppg The casing is considered to be evacuated for collapse purposes.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

*Engineering responsibility for use of this design will be that of the purchaser.*

**BOPE REVIEW****Whiting Ute Tribal 5-32-14-20rev 43-047-39741-0000**

Well Name	Whiting Ute Tribal 5-32-14-20rev 43-047-39741-0000
Casing Size (")	String 1 13 3/8 String 2 9 5/8 String 3 4 1/2
Setting Depth (TVD)	500 4582 12197
Previous Shoe Setting Depth (TVD)	60 500 4582
Max Mud Weight (ppg)	8.4 8.6 9.5
BOPE Proposed (psi)	500 5000 5000
Casing Internal Yield (psi)	1730 3520 10690
Operators Max Anticipated Pressure (psi)	4933 @ 11394' Curtis Fm 7.8 ppg

<b>Calculations</b>	<b>String 1</b>	<b>13 3/8 "</b>	
Max BHP [psi]	.052*Setting Depth*MW =	218	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	158	YES ✓ Air Drill
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	108	YES
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth) =	122	NO OK
Required Casing/BOPE Test Pressure		500 psi	
*Max Pressure Allowed @ Previous Casing Shoe =		60 psi	*Assumes 1psi/ft frac gradient

<b>Calculations</b>	<b>String 2</b>	<b>9 5/8 "</b>	
Max BHP [psi]	.052*Setting Depth*MW =	2049	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	1499	YES
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	1041	YES ✓
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth) =	1151	NO OK
Required Casing/BOPE Test Pressure		2464 psi	
*Max Pressure Allowed @ Previous Casing Shoe =		500 psi	*Assumes 1psi/ft frac gradient

<b>Calculations</b>	<b>String 3</b>	<b>4 1/2 "</b>	
Max BHP [psi]	.052*Setting Depth*MW =	6025	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	4562	YES
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	3342	YES OK
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth) =	4350	YES OK
Required Casing/BOPE Test Pressure		5000 psi	
*Max Pressure Allowed @ Previous Casing Shoe =		3520 psi	*Assumes 1psi/ft frac gradient

Approved by the  
 Utah Division of  
 Oil, Gas and Mining  
 Date: October 19, 2009  
 By: [Signature]

**Whiting Oil & Gas Corp.  
Ute Tribal 5-32-14-20 Well Plan  
Directional Wingate well  
Change Target, TD and Casing Design**

Surface Location: NENW 32-T14S-R20E SLB&M  
809' FNL & 1529' FWL  
Uintah County, Utah

**SUMMARY:**

Whiting Oil & Gas Corp. is requesting a change in the well design for the Ute Tribal 5-32-14-20 from a high angle openhole completion in the Entrada formation, to a S Curve directional well to the Wingate formation. The SHL and BHL will not change as per the last sundry, only the well path will change. A new directional plan is attached. The TD depth will be in the Wingate as per the original permit. This change is the result of re-evaluation of the geological data since the permit was originally filed.

The well will be an S Curve directional well with kickoff in the Wastch formation and drop in the Mancos B. The well will be back to vertical at the top of the Dakota and remain vertical to TD.

**DRILLING PROGRAM**

**1. ESTIMATED TOPS OF GEOLOGICAL MARKERS:**

Ground Level 7,499'      Estimated KB 7,527' (28')

<b>Formation</b>	<b>TVD</b>	<b>Lithology</b>	<b>Hazard</b>
Green River	28'	Oil Shale	Oil/Gas
Wasatch	2,357'	SS-SH	Oil/Gas
Mesaverde	4,457'	SS-SH	Oil
Castlegate SS	6,327'	Sandstone	Gas
Mancos	6,602'	SS-SH	Gas
Dakota	10,527'	Sandstone	Gas
Cedar Mtn	10,644'	Sandstone	Gas
Buckhorn Congl	10,760'	SS-SH	Gas
Morrison	10,827'	SS-SH	Gas
Curtis	11,394'	SS-SH	Gas
Entrada	11,527'	Sandstone	Gas
Carmel	11,750'	LS-SH	
Kayenta	11,807'	Sandstone	Gas
Wingate	11,947'	Sandstone	Gas
Total Depth	12,197'		

Bottom Hole Location: SWNW 32-T14S-R20E SLB&M  
1980' FSL & 660' FWL  
Uintah County, Utah

\*See Attached Directional Well Plan

## 2. PRESSURE CONTROL EQUIPMENT

- A. Type:**
- 11" 5000 psi annular preventer
  - 11" 5000 psi double ram hydraulic BOP
    - 1 – Blind Ram
    - 1 - Pipe Ram
  - Drilling Spool
    - Kill lines will be 2" x 5,000 psi working pressure
    - Choke lines will be 3" x 5,000 psi working pressure
  - 5,000 psi Casing head

**B. Testing Procedure:**

The annular preventer will be pressure tested to 50% of stack rated working pressure for ten (10) minutes or until provisions of test are met, whichever is longer. The BOP, choke manifold, and related equipment will be pressure tested to approved BOP stack working pressure (if isolated from surface casing by a test plug) or to 70% of surface casing internal yield strength (if BOP is not isolated by a test plug). Pressure will be maintained for ten (10) minutes or until the requirements of the test are met, whichever is longer. At a minimum, the Annular and Blow-Out Preventer pressure tests will be performed:

1. When the BOPE is initially installed;
2. Whenever any seal subject to test pressure is broken;
3. Following related repairs; and
4. At thirty (30) day intervals.

Annular will be function tested weekly, and pipe & blind rams activated each trip, but not more than once per day. All BOP drills & tests will be recorded in IADC driller's log.

**C. Choke Manifold Equipment:**

All choke lines will be straight lines whenever possible at turns, tee blocks will be used or will be targeted with running tees, and will be anchored to prevent whip and vibration.

**D. Accumulator:**

Accumulator will have sufficient capacity to open hydraulically-controlled choke line valve (if so equipped), close all rams plus annular preventer, and retain a minimum of 200 psi above precharge on the closing manifold without the use of closing unit pumps. The fluid reservoir capacity will be double accumulator capacity and the fluid level will be maintained at manufacturer's recommendations. Accumulator precharge pressure test will be conducted prior to connecting the closing unit to the BOP stack.

**E. Miscellaneous Information:**

Choke manifold and BOP extension rods with hand wheels will be located outside rig sub-structure. Hydraulic BOP closing unit will be located at least twenty-five (25) feet from the wellhead but readily accessible to the driller. Exact locations and configurations of the hydraulic BOP closing unit will depend upon the particular rig contracted to drill this hole. A flare line will be installed after the choke manifold with the discharge point of the flare line to a separate pit located at least 125 feet away from the wellbore and any existing production facilities.

### 3. PROPOSED CASING PROGRAM

<u>Hole Size</u>	<u>Setting Depth (MD)</u>	<u>Casing Size</u>	<u>Wt./Ft.</u>	<u>Grade</u>	<u>Thread</u>
17-1/2"	500'	13-3/8"	48.00	H-40	STC
12-1/4"	4,616'	9-5/8"	36.00	J-55	LTC
7-7/8"	12,338'	4-1/2"	11.60	P-110	LTC

### 4. PROPOSED CEMENTING PROGRAM

SURFACE 500' MD: TOC Surface (100% Excess)

Single Stage (Includes Top Out): 389 sacks, Rockies LT

<u>Cement Properties</u>	<u>Slurry</u>
Slurry Weight (ppg)	13.5
Slurry Yield (cf/sack)	1.80

INTERMEDIATE 4,616' MD: TOC Surface (75% Excess, TOT: 4100' MD, TOL: 200' into surface casing)

Lead: 539 sacks Halliburton ECONOCEM SYSTEM

Tail: 253 sacks Halliburton Premium Cement

<u>Cement Properties</u>	<u>Lead Slurry</u>	<u>Tail Slurry</u>
Slurry Weight (ppg)	11.0	15.8
Slurry Yield (cf/sack)	3.81	1.15

PRODUCTION 12,338' MD: TOC Surface (Capiler + 15% Excess, TOT: 10,450' MD above the Dakota Silt, TOL: 200' into 9-5/8" casing)

Lead: 800 sacks Halliburton Foamed Lead Cement Elastiseal System

Tail: 340 sacks Halliburton Elastiseal System

<u>Cement Properties</u>	<u>Lead Slurry</u>	<u>Tail Slurry</u>
Slurry Weight (ppg)	14.30	14.30
Slurry Yield (cf/sack)	1.47	1.47

#### **Foam Design Specifications:**

Foam Calculation Method: Constant Density  
 Backpressure: 75 psig  
 Bottom Hole Circulating Temp: 180 degF  
 Mud Outlet Temperature: 120 degF

Calculated Gas = 86691.0 scf  
 Additional Gas = 40000 scf  
 Total Gas = 126691.0 scf

## 5. MUD PROGRAM

<u>Depth (MD)</u>	<u>Mud System</u>	<u>MW</u>	<u>PV</u>	<u>YP</u>	<u>FL</u>
0 - 500	Air	N/A	N/A	N/A	N/A
500' – 4,616'	Spud Mud	8.4 – 8.6	0 - 15	0 - 10	N/C
4,616' – TD'	3% KCL / Polymer	8.6 – 9.5	5 - 10	5 - 15	>8

Surface hole (0' – 500') will be drilled with an Air Drilling Rig using an air/foam package. Air/foam package will consist of compressors, booster, and foam unit. Package will compress 3200 SCFM of air and a fluid package capable of pumping 60 gpm nominal, of fluid to 600 psig. This same package will move 2100 SCFM two staged @ 1500 psig.

### Special Drilling Operations

- Rotating Head
- Blooie line discharge 100 feet from well bore and securely anchored
- Straight run on blooie line
- Compressors located in the opposite direction from the blooie line
- Compressors located a minimum of 100 feet the well bore

## 6. Testing, Logging and Core Programs

Cores: None planned  
DST: None planned

Surveys: Per Directional Plan

Mud Logger: Surface

Samples: 30' samples from surface to Entrada  
10' samples to TD

Open Hole Logging Program: Triple Combo TD to Surface Casing

## 7. ANTICIPATED ABNORMAL PRESSURES OR TEMPERATURES:

No H<sub>2</sub>S gas is anticipated.

Maximum pressure at the base of the Curtis, 4,933 psi (0.433 psi/ft normal pressure gradient) at 11,394' TVD.

Anticipated bottomhole pressure at TD is 4,269 psi (0.35 psi/ft) at 12,197' TVD (6.73 ppg equivalent).

Normal BHT calculated at 1.25°F/100' with a 65°F surface Temperature.  
BHT @ 12,197' TVD = 217°F.

## 8. ANTICIPATED STARTING DATE AND DURATION:

Dirt work startup: Location Built

Spud: October 2009

Duration: 35 - 40 days

# **Whiting Petroleum Corporation**

**Uintah County, UT  
Section 32-T14S-R20E  
UTE Tribal 5-32-14-20  
Well**

**Plan: Plan #1**

## **Standard Planning Report**

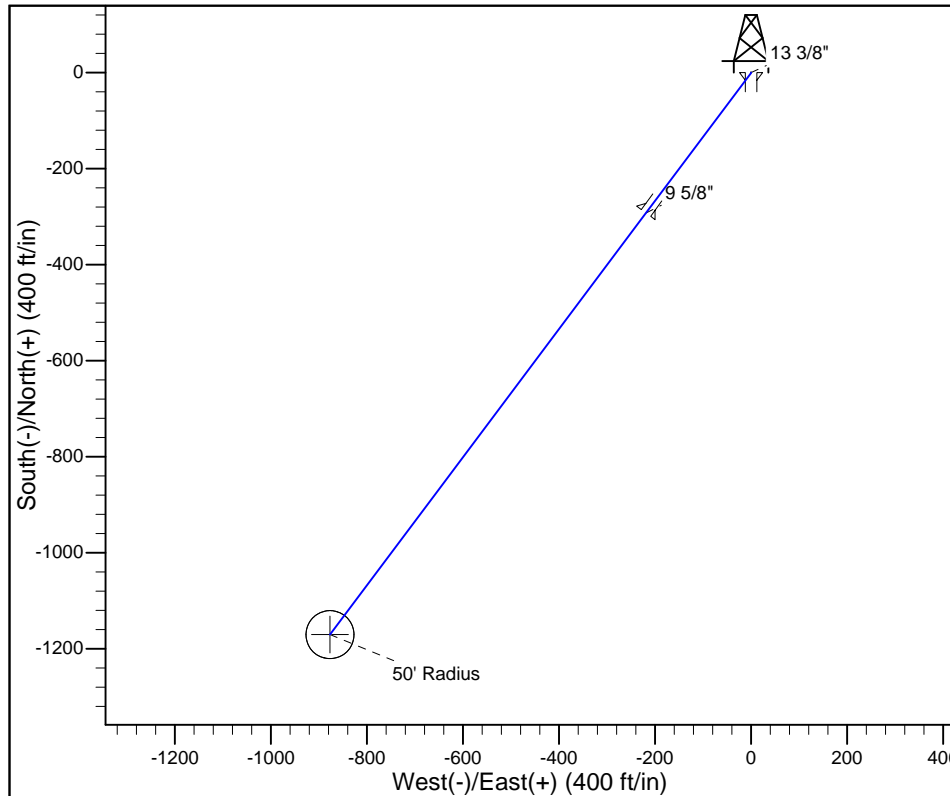
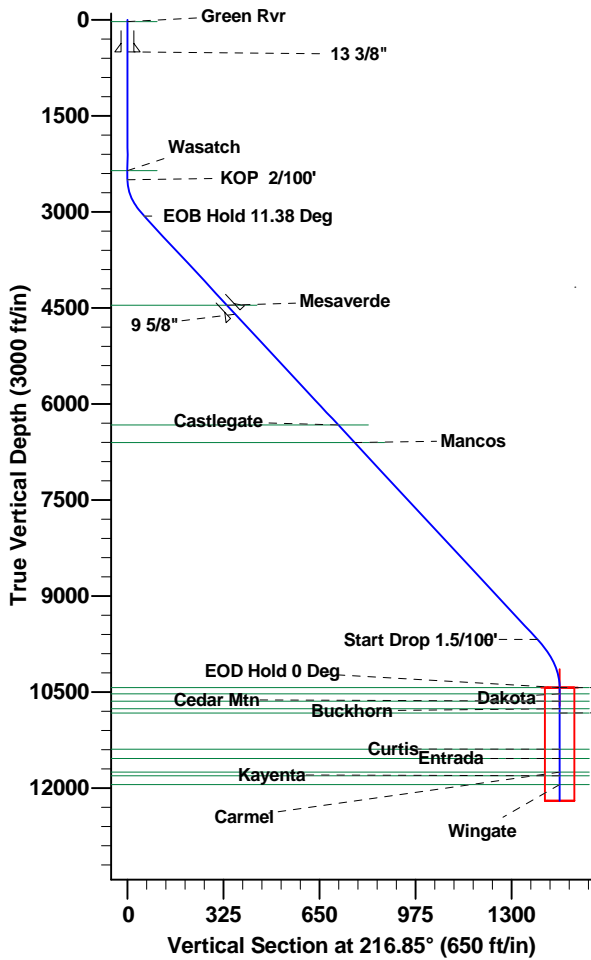
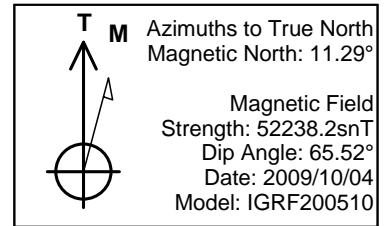
**04 October, 2009**



**Whiting Petroleum Corporation**  
**UTE Tribal 5-32-14-20**  
**Uintah County, UT**  
**Plan #1**



PROJECT DETAILS: Uintah County, UT
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Utah Central Zone
System Datum: Mean Sea Level



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
28.0	28.0	Green Rvr
2357.0	2357.0	Wasatch
4457.0	4488.7	Mesaverde
6327.0	6396.2	Castlegate
6602.0	6676.7	Mancos
10432.0	10573.4	Dakota Silt
10527.0	10668.4	Dakota
10644.0	10785.4	Cedar Mtn
10760.0	10901.4	Buckhorn
10827.0	10968.4	Morrison
11394.0	11535.4	Curtis
11537.0	11678.4	Entrada
11750.0	11891.4	Carmel
11807.0	11948.4	Kayenta
11947.0	12088.4	Wingate

**SECTION DETAILS**

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
2	2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0
3	3069.1	11.38	216.85	3065.4	-45.1	-33.8	2.00	216.85	56.3
4	9814.6	11.38	216.85	9678.2	-1110.4	-832.1	0.00	0.00	1387.6
5	10573.4	0.00	0.00	10432.0	-1170.5	-877.1	1.50	180.00	1462.7
6	12338.4	0.00	0.00	12197.0	-1170.5	-877.1	0.00	0.00	1462.7

## Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well UTE Tribal 5-32-14-20
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Project:</b>	Uintah County, UT	<b>MD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Site:</b>	Section 32-T14S-R20E	<b>North Reference:</b>	True
<b>Well:</b>	UTE Tribal 5-32-14-20	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Well		
<b>Design:</b>	Plan #1		

<b>Project</b>	Uintah County, UT		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Utah Central Zone		

Site		Section 32-T14S-R20E				
Site Position:		Northing:	7,013,846.02ft	Latitude:	39° 33' 39.240 N	
From:	Lat/Long	Easting:	2,145,484.00ft	Longitude:	109° 42' 30.161 W	
Position Uncertainty:		0.0 ft	Slot Radius:	"	Grid Convergence:	1.15 °

Well	UTE Tribal 5-32-14-20					
Well Position	+N-S	0.0 ft	Northing:	7,013,837.29 ft	Latitude:	39° 33' 39.020 N
	+E-W	0.0 ft	Easting:	2,146,160.24 ft	Longitude:	109° 42' 21.530 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	7,527.0 ft	Ground Level:	7,499.0 ft

<b>Wellbore</b>	Well				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	2009/10/04	11.29	65.52	52,238

<b>Design</b>	Plan #1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE		<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	216.85	

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,069.1	11.38	216.85	3,065.4	-45.1	-33.8	2.00	2.00	0.00	216.85	
9,814.6	11.38	216.85	9,678.2	-1,110.4	-832.1	0.00	0.00	0.00	0.00	
10,573.4	0.00	0.00	10,432.0	-1,170.5	-877.1	1.50	-1.50	0.00	180.00	5-32-14-20
12,338.4	0.00	0.00	12,197.0	-1,170.5	-877.1	0.00	0.00	0.00	0.00	

# Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well UTE Tribal 5-32-14-20
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Project:</b>	Uintah County, UT	<b>MD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Site:</b>	Section 32-T14S-R20E	<b>North Reference:</b>	True
<b>Well:</b>	UTE Tribal 5-32-14-20	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Well		
<b>Design:</b>	Plan #1		

## Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
28.0	0.00	0.00	28.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Green Rvr</b>									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>13 3/8"</b>									
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,357.0	0.00	0.00	2,357.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Wasatch</b>									
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP 2'/100'</b>									
2,600.0	2.00	216.85	2,600.0	-1.4	-1.0	1.7	2.00	2.00	0.00
2,700.0	4.00	216.85	2,699.8	-5.6	-4.2	7.0	2.00	2.00	0.00
2,800.0	6.00	216.85	2,799.5	-12.6	-9.4	15.7	2.00	2.00	0.00
2,900.0	8.00	216.85	2,898.7	-22.3	-16.7	27.9	2.00	2.00	0.00
3,000.0	10.00	216.85	2,997.5	-34.8	-26.1	43.5	2.00	2.00	0.00
3,069.1	11.38	216.85	3,065.4	-45.1	-33.8	56.3	2.00	2.00	0.00
<b>EOB Hold 11.38 Deg</b>									
3,100.0	11.38	216.85	3,095.7	-50.0	-37.4	62.4	0.00	0.00	0.00
3,200.0	11.38	216.85	3,193.7	-65.8	-49.3	82.2	0.00	0.00	0.00
3,300.0	11.38	216.85	3,291.7	-81.6	-61.1	101.9	0.00	0.00	0.00
3,400.0	11.38	216.85	3,389.8	-97.3	-72.9	121.6	0.00	0.00	0.00
3,500.0	11.38	216.85	3,487.8	-113.1	-84.8	141.4	0.00	0.00	0.00
3,600.0	11.38	216.85	3,585.8	-128.9	-96.6	161.1	0.00	0.00	0.00
3,700.0	11.38	216.85	3,683.9	-144.7	-108.5	180.9	0.00	0.00	0.00
3,800.0	11.38	216.85	3,781.9	-160.5	-120.3	200.6	0.00	0.00	0.00
3,900.0	11.38	216.85	3,879.9	-176.3	-132.1	220.3	0.00	0.00	0.00
4,000.0	11.38	216.85	3,978.0	-192.1	-144.0	240.1	0.00	0.00	0.00
4,100.0	11.38	216.85	4,076.0	-207.9	-155.8	259.8	0.00	0.00	0.00
4,200.0	11.38	216.85	4,174.0	-223.7	-167.6	279.5	0.00	0.00	0.00
4,300.0	11.38	216.85	4,272.1	-239.5	-179.5	299.3	0.00	0.00	0.00
4,400.0	11.38	216.85	4,370.1	-255.3	-191.3	319.0	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well UTE Tribal 5-32-14-20
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Project:</b>	Uintah County, UT	<b>MD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Site:</b>	Section 32-T14S-R20E	<b>North Reference:</b>	True
<b>Well:</b>	UTE Tribal 5-32-14-20	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Well		
<b>Design:</b>	Plan #1		

## Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,488.7	11.38	216.85	4,457.0	-269.3	-201.8	336.5	0.00	0.00	0.00
<b>Mesaverde</b>									
4,500.0	11.38	216.85	4,468.1	-271.1	-203.1	338.7	0.00	0.00	0.00
4,600.0	11.38	216.85	4,566.2	-286.9	-215.0	358.5	0.00	0.00	0.00
4,634.5	11.38	216.85	4,600.0	-292.3	-219.0	365.3	0.00	0.00	0.00
<b>9 5/8"</b>									
4,700.0	11.38	216.85	4,664.2	-302.7	-226.8	378.2	0.00	0.00	0.00
4,800.0	11.38	216.85	4,762.2	-318.5	-238.6	397.9	0.00	0.00	0.00
4,900.0	11.38	216.85	4,860.3	-334.2	-250.5	417.7	0.00	0.00	0.00
5,000.0	11.38	216.85	4,958.3	-350.0	-262.3	437.4	0.00	0.00	0.00
5,100.0	11.38	216.85	5,056.3	-365.8	-274.1	457.1	0.00	0.00	0.00
5,200.0	11.38	216.85	5,154.4	-381.6	-286.0	476.9	0.00	0.00	0.00
5,300.0	11.38	216.85	5,252.4	-397.4	-297.8	496.6	0.00	0.00	0.00
5,400.0	11.38	216.85	5,350.4	-413.2	-309.6	516.4	0.00	0.00	0.00
5,500.0	11.38	216.85	5,448.5	-429.0	-321.5	536.1	0.00	0.00	0.00
5,600.0	11.38	216.85	5,546.5	-444.8	-333.3	555.8	0.00	0.00	0.00
5,700.0	11.38	216.85	5,644.5	-460.6	-345.1	575.6	0.00	0.00	0.00
5,800.0	11.38	216.85	5,742.6	-476.4	-357.0	595.3	0.00	0.00	0.00
5,900.0	11.38	216.85	5,840.6	-492.2	-368.8	615.0	0.00	0.00	0.00
6,000.0	11.38	216.85	5,938.6	-508.0	-380.6	634.8	0.00	0.00	0.00
6,100.0	11.38	216.85	6,036.7	-523.8	-392.5	654.5	0.00	0.00	0.00
6,200.0	11.38	216.85	6,134.7	-539.6	-404.3	674.2	0.00	0.00	0.00
6,300.0	11.38	216.85	6,232.7	-555.4	-416.2	694.0	0.00	0.00	0.00
6,396.2	11.38	216.85	6,327.0	-570.5	-427.5	713.0	0.00	0.00	0.00
<b>Castlegate</b>									
6,400.0	11.38	216.85	6,330.8	-571.1	-428.0	713.7	0.00	0.00	0.00
6,500.0	11.38	216.85	6,428.8	-586.9	-439.8	733.4	0.00	0.00	0.00
6,600.0	11.38	216.85	6,526.8	-602.7	-451.7	753.2	0.00	0.00	0.00
6,676.7	11.38	216.85	6,602.0	-614.8	-460.7	768.3	0.00	0.00	0.00
<b>Mancos</b>									
6,700.0	11.38	216.85	6,624.9	-618.5	-463.5	772.9	0.00	0.00	0.00
6,800.0	11.38	216.85	6,722.9	-634.3	-475.3	792.7	0.00	0.00	0.00
6,900.0	11.38	216.85	6,820.9	-650.1	-487.2	812.4	0.00	0.00	0.00
7,000.0	11.38	216.85	6,919.0	-665.9	-499.0	832.1	0.00	0.00	0.00
7,100.0	11.38	216.85	7,017.0	-681.7	-510.8	851.9	0.00	0.00	0.00
7,200.0	11.38	216.85	7,115.0	-697.5	-522.7	871.6	0.00	0.00	0.00
7,300.0	11.38	216.85	7,213.1	-713.3	-534.5	891.3	0.00	0.00	0.00
7,400.0	11.38	216.85	7,311.1	-729.1	-546.3	911.1	0.00	0.00	0.00
7,500.0	11.38	216.85	7,409.1	-744.9	-558.2	930.8	0.00	0.00	0.00
7,600.0	11.38	216.85	7,507.2	-760.7	-570.0	950.5	0.00	0.00	0.00
7,700.0	11.38	216.85	7,605.2	-776.5	-581.8	970.3	0.00	0.00	0.00
7,800.0	11.38	216.85	7,703.2	-792.3	-593.7	990.0	0.00	0.00	0.00
7,900.0	11.38	216.85	7,801.3	-808.0	-605.5	1,009.7	0.00	0.00	0.00
8,000.0	11.38	216.85	7,899.3	-823.8	-617.3	1,029.5	0.00	0.00	0.00
8,100.0	11.38	216.85	7,997.3	-839.6	-629.2	1,049.2	0.00	0.00	0.00
8,200.0	11.38	216.85	8,095.4	-855.4	-641.0	1,068.9	0.00	0.00	0.00
8,300.0	11.38	216.85	8,193.4	-871.2	-652.8	1,088.7	0.00	0.00	0.00
8,400.0	11.38	216.85	8,291.4	-887.0	-664.7	1,108.4	0.00	0.00	0.00
8,500.0	11.38	216.85	8,389.4	-902.8	-676.5	1,128.2	0.00	0.00	0.00
8,600.0	11.38	216.85	8,487.5	-918.6	-688.3	1,147.9	0.00	0.00	0.00
8,700.0	11.38	216.85	8,585.5	-934.4	-700.2	1,167.6	0.00	0.00	0.00
8,800.0	11.38	216.85	8,683.5	-950.2	-712.0	1,187.4	0.00	0.00	0.00
8,900.0	11.38	216.85	8,781.6	-966.0	-723.9	1,207.1	0.00	0.00	0.00

# Planning Report

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<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Project:</b>	Uintah County, UT	<b>MD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Site:</b>	Section 32-T14S-R20E	<b>North Reference:</b>	True
<b>Well:</b>	UTE Tribal 5-32-14-20	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Well		
<b>Design:</b>	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,000.0	11.38	216.85	8,879.6	-981.8	-735.7	1,226.8	0.00	0.00	0.00	
9,100.0	11.38	216.85	8,977.6	-997.6	-747.5	1,246.6	0.00	0.00	0.00	
9,200.0	11.38	216.85	9,075.7	-1,013.4	-759.4	1,266.3	0.00	0.00	0.00	
9,300.0	11.38	216.85	9,173.7	-1,029.2	-771.2	1,286.0	0.00	0.00	0.00	
9,400.0	11.38	216.85	9,271.7	-1,045.0	-783.0	1,305.8	0.00	0.00	0.00	
9,500.0	11.38	216.85	9,369.8	-1,060.7	-794.9	1,325.5	0.00	0.00	0.00	
9,600.0	11.38	216.85	9,467.8	-1,076.5	-806.7	1,345.2	0.00	0.00	0.00	
9,700.0	11.38	216.85	9,565.8	-1,092.3	-818.5	1,365.0	0.00	0.00	0.00	
9,800.0	11.38	216.85	9,663.9	-1,108.1	-830.4	1,384.7	0.00	0.00	0.00	
9,814.6	11.38	216.85	9,678.2	-1,110.4	-832.1	1,387.6	0.00	0.00	0.00	
<b>Start Drop 1.5/100'</b>										
9,900.0	10.10	216.85	9,762.1	-1,123.2	-841.6	1,403.5	1.50	-1.50	0.00	
10,000.0	8.60	216.85	9,860.8	-1,136.2	-851.4	1,419.8	1.50	-1.50	0.00	
10,100.0	7.10	216.85	9,959.8	-1,147.1	-859.6	1,433.4	1.50	-1.50	0.00	
10,200.0	5.60	216.85	10,059.2	-1,156.0	-866.2	1,444.5	1.50	-1.50	0.00	
10,300.0	4.10	216.85	10,158.8	-1,162.7	-871.3	1,452.9	1.50	-1.50	0.00	
10,400.0	2.60	216.85	10,258.7	-1,167.4	-874.8	1,458.8	1.50	-1.50	0.00	
10,500.0	1.10	216.85	10,358.6	-1,170.0	-876.7	1,462.0	1.50	-1.50	0.00	
10,573.4	0.00	0.00	10,432.0	-1,170.5	-877.1	1,462.7	1.50	-1.50	195.07	
<b>EOD Hold 0 Deg - Dakota Silt - 5-32-14-20</b>										
10,600.0	0.00	0.00	10,458.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
10,668.4	0.00	0.00	10,527.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
<b>Dakota</b>										
10,700.0	0.00	0.00	10,558.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
10,785.4	0.00	0.00	10,644.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
<b>Cedar Mtn</b>										
10,800.0	0.00	0.00	10,658.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
10,900.0	0.00	0.00	10,758.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
10,901.4	0.00	0.00	10,760.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
<b>Buckhorn</b>										
10,968.4	0.00	0.00	10,827.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
<b>Morrison</b>										
11,000.0	0.00	0.00	10,858.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,100.0	0.00	0.00	10,958.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,200.0	0.00	0.00	11,058.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,300.0	0.00	0.00	11,158.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,400.0	0.00	0.00	11,258.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,500.0	0.00	0.00	11,358.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,535.4	0.00	0.00	11,394.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
<b>Curtis</b>										
11,600.0	0.00	0.00	11,458.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,678.4	0.00	0.00	11,537.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
<b>Entrada</b>										
11,700.0	0.00	0.00	11,558.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,800.0	0.00	0.00	11,658.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,891.4	0.00	0.00	11,750.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
<b>Carmel</b>										
11,900.0	0.00	0.00	11,758.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,948.4	0.00	0.00	11,807.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
<b>Kayenta</b>										
12,000.0	0.00	0.00	11,858.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
12,088.4	0.00	0.00	11,947.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	

## Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well UTE Tribal 5-32-14-20
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Project:</b>	Uintah County, UT	<b>MD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Site:</b>	Section 32-T14S-R20E	<b>North Reference:</b>	True
<b>Well:</b>	UTE Tribal 5-32-14-20	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Well		
<b>Design:</b>	Plan #1		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
<b>Wingate</b>									
12,100.0	0.00	0.00	11,958.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00
12,200.0	0.00	0.00	12,058.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00
12,300.0	0.00	0.00	12,158.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00
12,338.4	0.00	0.00	12,197.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00

### Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
5-32-14-20	0.00	0.00	10,432.0	-1,170.5	-877.1	7,012,649.39	2,145,306.75	39° 33' 27.450 N	109° 42' 32.730 W
- plan hits target									
- Circle (radius 50.0)									

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
500.0	500.0	13 3/8"	13-3/8	17-1/2
4,634.5	4,600.0	9 5/8"	9-5/8	12-1/4
	12,338.4	4 1/2"	4-1/2	7-7/8

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
10,573.4	10,432.0	Dakota Silt		0.00	
10,668.4	10,527.0	Dakota		0.00	
10,901.4	10,760.0	Buckhorn		0.00	
11,891.4	11,750.0	Carmel		0.00	
11,948.4	11,807.0	Kayenta		0.00	
6,676.7	6,602.0	Mancos		0.00	
11,535.4	11,394.0	Curtis		0.00	
6,396.2	6,327.0	Castlegate		0.00	
4,488.7	4,457.0	Mesaverde		0.00	
11,678.4	11,537.0	Entrada		0.00	
12,088.4	11,947.0	Wingate		0.00	
10,968.4	10,827.0	Morrison		0.00	
2,357.0	2,357.0	Wasatch		0.00	
28.0	28.0	Green Rvr		0.00	
10,785.4	10,644.0	Cedar Mtn		0.00	

## Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well UTE Tribal 5-32-14-20
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Project:</b>	Uintah County, UT	<b>MD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Site:</b>	Section 32-T14S-R20E	<b>North Reference:</b>	True
<b>Well:</b>	UTE Tribal 5-32-14-20	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Well		
<b>Design:</b>	Plan #1		

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,500.0	2,500.0	0.0	0.0	KOP 2/100'
3,069.1	3,065.4	-45.1	-33.8	EOB Hold 11.38 Deg
9,814.6	9,678.2	-1,110.4	-832.1	Start Drop 1.5/100'
10,573.4	10,432.0	-1,170.5	-877.1	EOD Hold 0 Deg

Found Set Marked Stone, with 5 notches on NE edge & 1 notch on SE edge of stone.

**T14S, R20E, S.L.B.&M.**

S89°50'W - 80.00 (G.L.O.)

S89°58'23"W - 2637.06' (Meas.)

S89°49'06"W - 2625.67' (Meas.)

Found Set Marked Stone, with 1/4 marked on North side of stone.

Found Set Stone, pile of stones.

2619.75' (Measured)  
N00°23'57"E (Basis of Bearings)

N0°03'W (G.L.O.)

N0°03'W (G.L.O.)

**WELL LOCATION:  
UTE TRIBAL 5-32-14-20**

ELEV. UNGRADED GROUND = 7498.8'

**32**

S89°54'W (G.L.O.)

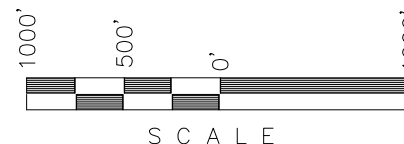
▲ = SECTION CORNERS LOCATED

UTE TRIBAL 5-32-14-20  
(Bottom Hole) NAD 83 Autonomous  
LATITUDE = 39° 33' 27.45"  
LONGITUDE = 109° 42' 32.73"

UTE TRIBAL 5-32-14-20  
(Surface Position) NAD 83 Autonomous  
LATITUDE = 39° 33' 39.02"  
LONGITUDE = 109° 42' 21.53"

**WHITING OIL AND GAS CORPORATION**

WELL LOCATION, UTE TRIBAL 5-32-14-20,  
LOCATED AS SHOWN IN THE SW 1/4 NW 1/4  
OF SECTION 32, T14S, R20E, S.L.B.&M.  
UINTAH COUNTY, UTAH.



**NOTES:**

1. Well footages are measured at right angles to the Section Lines.
2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
3. The Bottom of hole bears S36°50'10"W 1463.53' from the Surface Position.
4. Bearings are based on Global Positioning Satellite observations.
5. BASIS OF ELEVATION IS BENCH MARK 60 WF 1952 LOCATED IN THE SW 1/4 OF SECTION 35, T14S, R20E, S.L.B.&M. THE ELEVATION OF THIS BENCH MARK IS SHOWN ON THE FLAT ROCK MESA 7.5 MIN. QUADRANGLE AS BEING 7363'.

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS  
PREPARED FROM FIELD NOTES OF ANGULAR SURVEYS  
MADE BY ME OR UNDER MY SUPERVISION AND THAT  
THE SAME ARE TRUE AND CORRECT TO THE BEST OF  
MY KNOWLEDGE AND BELIEF.

*Kelly R. Kay*  
REGISTERED LAND SURVEYOR  
REGISTRATION NO. 362251  
STATE OF UTAH

**TIMBERLINE**

(435) 789-1365

**ENGINEERING & LAND SURVEYING, INC.**

209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 09-07-07	SURVEYED BY: B.J.S.	<b>SHEET 2 OF 11</b>
DATE DRAWN: 09-25-07	DRAWN BY: M.W.W.	
SCALE: 1" = 1000'	Date Last Revised: 08-03-09	



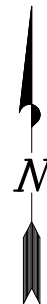
# WHITING OIL AND GAS CORPORATION

## WELL PAD INTERFERENCE PLAT

UTE TRIBAL 5-32-14-20

BASIS OF ELEVATION IS BENCH MARK 60 WF 1952 LOCATED IN THE SW 1/4 OF SECTION 35, T14S, R20E, S.L.B.&M. THE ELEVATION OF THIS BENCH MARK IS SHOWN ON THE FLAT ROCK MESA 7.5 MIN. QUADRANGLE AS BEING 7363'.

BASIS OF BEARINGS IS THE WEST LINE OF THE NW 1/4 OF SECTION 32, T14S, R20E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°23'57"E.



Existing Road

### SURFACE POSITION FOOTAGES:

UTE TRIBAL 5-32-14-20  
809' FNL & 1529' FWL

### BOTTOM HOLE FOOTAGES

UTE TRIBAL 5-32-14-20  
1980' FNL & 660' FWL

PROPOSED GRADED GROUND  
ELEVATION OF PAD IS 7497.2'.

N88°41'21"W

● UTE TRIBAL 5-32-14-20

S36°50'10"W - 1463.53'  
(To Bottom Hole)

### RELATIVE COORDINATES

From Surface Position to Bottom Hole

WELL	NORTH	EAST
5-32-14-20	-1,171'	-877'

### LATITUDE & LONGITUDE

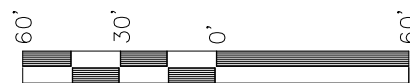
Surface Position - (NAD 83) Autonomous

WELL	N. LATITUDE	W. LONGITUDE
5-32-14-20	39°33'39.02"	109°42'21.53"

### LATITUDE & LONGITUDE

Bottom Hole - (NAD 83) Autonomous

WELL	N. LATITUDE	W. LONGITUDE
5-32-14-20	39°33'27.45"	109°42'32.73"



S C A L E

Section 32, T14S, R20E, S.L.B.&M.

Qtr/Qtr Location: NE NW (Surface)

Date Surveyed:  
09-07-07

Date Drawn:  
08-04-09

Date Last Revision:

**Timberline**

(435) 789-1365

SHEET

Surveyed By: B.J.S.

Drawn By: M.W.W.

Scale: 1" = 60'


Engineering & Land Surveying, Inc.

209 NORTH 300 WEST VERNAL, UTAH 84078

3

OF 11

RECEIVED October 14, 2009

<b>RECOMMENDED BY</b>				
Central Rockies				
<b>REVISIONS:</b>		 <b>WHITING PETROLEUM CORP.</b> <b>1700 BROADWAY Suite 2300</b> <b>Denver, CO 80290</b> <b>303-837-1661</b>		
1	Updated TD to Wingate			<b>DATE:</b> 10/02/09
2				<b>DATE:</b>

WELL INFORMATION			
<b>API:</b>	43-047-39741-00	<b>AFE:</b>	
<b>WELL NAME:</b>	UTE TRIBAL 5-32-14-20	<b>ACQUISITION:</b>	CEA
<b>PROSPECT:</b>	FLAT ROCK	<b>RESERVE CATEGORY:</b>	
<b>SURFACE LOCATION:</b>	NENW 32 14S 20E	<b>SURFACE LONG, LAT:</b>	-109.7052200, 39.5609000
<b>SURFACE FOOTAGE:</b>	809 FNL 1529 FWL	<b>BOTTOM HOLE LONG, LAT:</b>	-109.7083781, 39.5577005
<b>BOTTOM HOLE LOCATION:</b>	SWNW 32 14S 20E	<b>SURVEYED ELEVATION (GR):</b>	7,499
<b>BOTTOM HOLE FOOTAGE:</b>	1980 FNL 660 FWL	<b>HEIGHT TO KB:</b>	28
<b>COUNTY:</b>	Uintah	<b>ACTUAL ELEV. (KB):</b>	7,527
<b>STATE:</b>	UT	<b>TVD (if horizontal well):</b>	ft.
<b>LOCATION MAY BE MOVED:</b>		<b>TMD (if horizontal well):</b>	ft.
<b>PROPOSED TOTAL DEPTH (TVD):</b>	12,197	<b>FORMATION AT TD:</b>	Wingate

FORMATION	TOP - TVD	TOP - TVDSS	INTVL	CORE	LITHOLOGY	GEOLOGIC HAZARDS
Green River Fm @ Surface	28	7,499	2,329		Oil Shale	oil and/or gas anticipated
Wasatch Fm	2,357	5,170	2,100		SS-SH	oil and/or gas anticipated
Mesaverde	4,457	3,070	1,870		SS-SH	oil and/or gas anticipated
Castlegate SS	6,327	1,200	275		Sandstone	gas
Mancos	6,602	925	505		SS-SH	gas
Mancos B	7,107	420	3,325		Sandstone	gas
Dakota Silt	10,432	(2,905)	95		Sandstone	gas
Dakota	10,527	(3,000)	117		Sandstone	gas
Cedar Mtn Fm	10,644	(3,117)	116		Sandstone	gas
Buckhorn Congl	10,760	(3,233)	67		SS-SH	gas
Morrison Fm	10,827	(3,300)	567		SS-SH	
Curtis Fm	11,394	(3,867)	143		SS-SH	
Entrada SS	11,537	(4,010)	213		Sandstone	gas
Carmel	11,750	(4,223)	57		LS-SH	
Kayenta	11,807	(4,280)	140		Sandstone	gas
Wingate	11,947	(4,420)	250		Sandstone	gas
TD	12,197	(4,670)				

WIRELINE LOGS		CORING & CUTTINGS	
<b>LOGGING COMPANY:</b>		<b>CORING TOOL CO:</b>	
<b>TRIPLE COMBO</b> YES <b>FROM:</b> TD to surf		<b>CORE ANALYSIS CO:</b>	
		<b>30' SAMPLES:</b> Surf Csg <b>TO:</b> TD <b>10' SAMPLES:</b> <b>TO:</b>	
		<b>SHIP CUTTINGS TO:</b> Larry Rasmussen	
		Whiting Petroleum Corp.	
		1700 Broadway, Ste 2300	
		Denver, CO 80290	
WELLSITE GEOLOGIST		MUD LOGGER	
<b>NAME:</b>		<b>NAME:</b>	
<b>PHONE</b>		<b>PHONE</b>	
<b>STARTING DEPTH:</b>		<b>STARTING DEPTH:</b>	Surface Csg
NOTIFICATIONS		OFFICE	MOBILE
1st	Larry Rasmussen - Geologist	303-390-4093	720-272-5978
2nd	John Forster - Regional Geol Manager	303-390-4117	303-324-7690
3rd	Dana Greathouse - Regional Drilling Mgr	303-390-4247	303-808-3687
4th	Tom Smith - Sr. Operations Engineer	303-390-4124	720-283-3272

**SPECIAL INSTRUCTIONS:** Anticipate continuous gas from Wasatch through the Entrada, possibly Wingate.  
 Expect underpressured reservoirs, 0.35 psi/ft, Bottom Hole Temperature of ~230F

**HALLIBURTON**

Whiting Oil & Gas Corp Ebusiness  
Do Not Mail - 1700 Broadway Ste2300  
Denver, Colorado 80290

Ute Tribal 5-32-14-20  
Flat Rock Field  
Uintah County, Utah  
United States of America  
S:32 T:14S R:20E

## Multiple String Cement Recommendation

Prepared for: Mr. Dana Greathouse

October 5, 2009  
Version: 1

Submitted by:  
Matt Collins  
Halliburton  
1125 17th Street #1900  
Denver, Colorado 80202  
303.501.9557

**HALLIBURTON**

RECEIVED October 14, 2009

***Halliburton appreciates the opportunity to present  
this proposal and looks forward to being of service to you.***

## **Foreword**

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Enclosed is our recommended procedure for cementing the casing strings in the referenced well. The information in this proposal includes well data, calculations, materials requirements, and cost estimates. This proposal is based on information from our field personnel and previous cementing services in the area.

Halliburton Energy Services recognizes the importance of meeting society's needs for health, safety, and protection of the environment. It is our intention to proactively work with employees, customers, the public, governments, and others to use natural resources in an environmentally sound manner while protecting the health, safety, and environmental processes while supplying high quality products and services to our customers.

We appreciate the opportunity to present this proposal for your consideration and we look forward to being of service to you. Our Services for your well will be coordinated through the Service Center listed below. If you require any additional information or additional designs, please feel free to contact myself or our field representative listed below.

Prepared and Submitted by:

\_\_\_\_\_  
Matt Collins  
Account Representative

SERVICE CENTER:	Vernal
SERVICE COORDINATOR:	Weston Spencer / Cody Slauch
PSL DISTRICT MANAGER:	Christopher Jerez
PDC:	Jason Bergin / Corey Reynolds
CMT ENGINEERS:	Chris Cicirello / Sean Bullington
	Ted Groff
PHONE NUMBER:	435.789.2550

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## Cementing Best Practices

1. **Cement quality and weight:** You must choose a cement slurry that is designed to solve the problems specific to each casing string.
2. **Waiting time:** You must hold the cement slurry in place and under pressure until it reaches its' initial set without disturbing it. A cement slurry is a time-dependent liquid and must be allowed to undergo a hydration reaction to produce a competent cement sheath. A fresh cement slurry can be worked (thickening or pump time) as long as it is in a plastic state and before going through its' transition phase. If the cement slurry is not allowed to transition without being disturbed, it may be subjected to changes in density, dilution, settling, water separation, and gas cutting that may lead to a lack of zonal isolation and possible bridging in the annulus.
3. **Pipe movement:** Pipe movement may be one of the single most influential factors in mud removal. Reciprocation and/or rotation mechanically breaks up gelled mud and changes the flow patterns in the annulus to improve displacement efficiency.
4. **Mud properties (for cementing):**  
**Rheology:**  
Plastic Viscosity (PV) < 15 centipoise (cp)  
Yield Point (YP) < 10 lb/100 ft<sup>2</sup>  
These properties should be reviewed with the Mud Engineer, Drilling Engineer, and Company Representative(s) to ensure no hole problems are created.  
**Gel Strength:**  
The 10-second/10-minute gel strength values should be such that the 10-second and 10-minute readings are close together or flat (i.e., 5/6). The 30-minute reading should be less than 20 lb/100 ft<sup>2</sup>. Sufficient shear stress may not be achieved on a primary cement job to remove mud left in the hole if the mud were to develop more than 25 lb/100 ft<sup>2</sup> of gel strength.  
**Fluid Loss:**  
Decreasing the filtrate loss into a permeable zone enhances the creation of a thin, competent filter cake. A thin, competent filter cake created by a low fluid loss mud system is desirable over a thick, partially gelled filter cake. A mud system created with a low fluid loss will be more easily displaced. The fluid loss value should be < 15 cc's (ideal would be 5 cc's).
5. **Circulation:** Prior to cementing circulate full hole volume twice, or until well conditioned mud is being returned to the surface. There should be no cutting in the mud returns. An annular velocity of 260 feet per minute is optimum (SPE/IADC 18617), if possible.
6. **Flow rate:** Turbulent flow is the most desirable flow regime for mud removal. If turbulence cannot be achieved pump at as high a flow rate that can practically and safely be used to create the maximum flow energy. The highest mud removal is achieved when the maximum flow energy is obtained.
7. **Pipe Centralization:** This Cement will take the path of least resistance, therefore proper centralization is important to help prevent the casing from contacting the borehole wall. A minimum standoff of 70% should be targeted for optimum displacement efficiency.
8. **Rat hole:** A weighted viscous pill placed in the rat hole prior to cementing will minimize the risk of higher density cement mixing with lower density mud when the well is static.
9. **Top and Bottom plugs:** A top and bottom plug are recommended to be run on all primary casing jobs. The bottom plug should be run after the spacer and ahead of the first cement slurry.
10. **Spacers and flushes:** Spacers and/or flushes should be used to prevent contamination between the cement slurry and the drilling fluid. They are also used to clean the wellbore and aid with bonding. To determine the volume, either a minimum of 10 minutes contact time or 1000 ft. of annular fill, whichever is greater, is recommended.

**Job Information****13 3/8" Casing**

---

Well Name: Ute Tribal

Well #: 5-32-14-20

20" Conductor	0 - 60 ft (MD)
Outer Diameter	20.000 in
Inner Diameter	19.124 in
Linear Weight	94 lbm/ft
Casing Grade	H-40

17 1/2" Open Hole	60 - 500 ft (MD)
Inner Diameter	17.500 in
Job Excess	100 %

13 3/8" Surface Casing	0 - 500 ft (MD)
Outer Diameter	13.375 in
Inner Diameter	12.715 in
Linear Weight	48 lbm/ft
Casing Grade	H-40

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**Calculations****13 3/8" Casing**

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Spacer:

$$\begin{aligned}\text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl}\end{aligned}$$

Cement : (500.00 ft fill)

$$\begin{aligned}60.00 \text{ ft} * 1.019 \text{ ft}^3/\text{ft} * 0 \% &= 61.14 \text{ ft}^3 \\ 440.00 \text{ ft} * 0.6946 \text{ ft}^3/\text{ft} * 100 \% &= 611.28 \text{ ft}^3 \\ \text{Lead Cement} &= 672.42 \text{ ft}^3 \\ &= 119.76 \text{ bbl}\end{aligned}$$

Shoe Joint Volume: (40.00 ft fill)

$$\begin{aligned}40.00 \text{ ft} * 0.8818 \text{ ft}^3/\text{ft} &= 35.27 \text{ ft}^3 \\ &= 6.28 \text{ bbl} \\ \text{Tail plus shoe joint} &= 707.69 \text{ ft}^3 \\ &= 126.05 \text{ bbl} \\ \text{Total Tail} &= 393 \text{ sks}\end{aligned}$$

Total Pipe Capacity:

$$\begin{aligned}500.00 \text{ ft} * 0.8818 \text{ ft}^3/\text{ft} &= 440.89 \text{ ft}^3 \\ &= 78.53 \text{ bbl}\end{aligned}$$

Displacement Volume to Shoe Joint:

$$\begin{aligned}\text{Capacity of Pipe - Shoe Joint} &= 78.53 \text{ bbl} - 6.28 \text{ bbl} \\ &= 72.24 \text{ bbl}\end{aligned}$$

**Job Recommendation****13 3/8" Casing**

## Fluid Instructions

Fluid 1: Water Spacer

Gel Water

Fluid Density: 8.34 lbm/gal

Fluid Volume: 20 bbl

## Fluid 2: Lead Cement

Rockies LT

0.25 lbm/sk Kwik Seal (Lost Circulation Additive)

0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Fluid Weight 13.50 lbm/gal

Slurry Yield: 1.80 ft<sup>3</sup>/sk

Total Mixing Fluid: 9.33 Gal/sk

Top of Fluid: 0 ft

Calculated Fill: 500 ft

Volume: 126.05 bbl

Calculated Sacks: 393.16 sks

Proposed Sacks: 395 sks

## Fluid 3: Water Spacer

Water Displacement

Fluid Density: 8.34 lbm/gal

Fluid Volume: 72.24 bbl

## Fluid 4: Top Out Cement

Premium Plus - Type III

94 lbm/sk Premium Plus - Type III (Cement-non-api)

2 % Calcium Chloride (Accelerator)

Fluid Weight 14.50 lbm/gal

Slurry Yield: 1.41 ft<sup>3</sup>/sk

Total Mixing Fluid: 6.86 Gal/sk

Proposed Sacks: 200 sks

**RECEIVED** October 14, 2009



**Detailed Pumping Schedule**

Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Estimated Avg Rate bbl/min	Downhole Volume
1	Spacer	Gel Water	8.3		20 bbl
2	Cement	Primary Cement	13.5		395 sks
3	Spacer	Water Displacement	8.3		72.24 bbl
4	Cement	Top Out Cement	14.5		200 sks

**Job Information****9 5/8" Casing**

---

Well Name: Ute Tribal

Well #: 5-32-14-20

13 3/8" Surface Casing	0 - 500 ft (MD)
Outer Diameter	13.375 in
Inner Diameter	12.715 in
Linear Weight	48 lbm/ft
Casing Grade	H-40

12 1/4" Open Hole	500 - 4616 ft (MD)
Inner Diameter	12.250 in
Job Excess	15 %

9 5/8" Intermediate Casing	0 - 4616 ft (MD)
Outer Diameter	9.625 in
Inner Diameter	8.921 in
Linear Weight	36 lbm/ft
Casing Grade	J-55

BHCT	100 degF
------	----------

**Calculations****9 5/8" Casing****Spacer:**

$$\begin{aligned}\text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl}\end{aligned}$$

**Spacer:**

$$\begin{aligned}2.00 \text{ ft} * 0.3765 \text{ ft}^3/\text{ft} * 0 \% &= 0.75 \text{ ft}^3 \\ \text{Total Spacer} &= 224.58 \text{ ft}^3 \\ &= 40.00 \text{ bbl}\end{aligned}$$

**Spacer:**

$$\begin{aligned}298.00 \text{ ft} * 0.3765 \text{ ft}^3/\text{ft} * 0 \% &= 112.20 \text{ ft}^3 \\ \text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl}\end{aligned}$$

**Cement : (3816.00 ft fill)**

$$\begin{aligned}200.00 \text{ ft} * 0.3765 \text{ ft}^3/\text{ft} * 0 \% &= 75.30 \text{ ft}^3 \\ 3616.00 \text{ ft} * 0.3132 \text{ ft}^3/\text{ft} * 15 \% &= 1302.36 \text{ ft}^3 \\ \text{Total Lead Cement} &= 1377.66 \text{ ft}^3 \\ &= 245.37 \text{ bbl} \\ \text{Sacks of Cement} &= 361 \text{ sks}\end{aligned}$$

**Cement : (500.00 ft fill)**

$$\begin{aligned}500.00 \text{ ft} * 0.3132 \text{ ft}^3/\text{ft} * 15 \% &= 180.08 \text{ ft}^3 \\ \text{Tail Cement} &= 180.08 \text{ ft}^3 \\ &= 32.07 \text{ bbl}\end{aligned}$$

**Shoe Joint Volume: (40.00 ft fill)**

$$\begin{aligned}40.00 \text{ ft} * 0.4341 \text{ ft}^3/\text{ft} &= 17.36 \text{ ft}^3 \\ &= 3.09 \text{ bbl} \\ \text{Tail plus shoe joint} &= 197.45 \text{ ft}^3 \\ &= 35.17 \text{ bbl} \\ \text{Total Tail} &= 171 \text{ sks}\end{aligned}$$

**Total Pipe Capacity:**

$$\begin{aligned}4616.00 \text{ ft} * 0.4341 \text{ ft}^3/\text{ft} &= 2003.64 \text{ ft}^3 \\ &= 356.86 \text{ bbl}\end{aligned}$$

**Displacement Volume to Shoe Joint:**

$$\begin{aligned}\text{Capacity of Pipe - Shoe Joint} &= 356.86 \text{ bbl} - 3.09 \text{ bbl} \\ &= 353.77 \text{ bbl}\end{aligned}$$

**Job Recommendation****9 5/8" Casing****Fluid Instructions****Fluid 1: Water Spacer**

Fresh Water

Fluid Density: 8.34 lbm/gal

Fluid Volume: 20 bbl

**Fluid 2: Reactive Spacer**

SUPER FLUSH 101

Fluid Density: 10 lbm/gal

Fluid Volume: 40 bbl

**Fluid 3: Water Spacer**

Fresh Water

Fluid Density: 8.34 lbm/gal

Fluid Volume: 20 bbl

**Fluid 4: Lead Cement**

ECONOCEM (TM) SYSTEM

0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Fluid Weight 11 lbm/gal

Slurry Yield: 3.81 ft<sup>3</sup>/sk

Total Mixing Fluid: 23.01 Gal/sk

Top of Fluid: 300 ft

Calculated Fill: 3816 ft

Volume: 245.37 bbl

Calculated Sacks: 361.21 sks

Proposed Sacks: 365 sks

**Fluid 5: Tail Cement**

Premium Cement

94 lbm/sk Premium Cement (Cement)

0.3 % Halad(R)-344 (Low Fluid Loss Control)

0.25 % CFR-3 (Dispersant)

0.35 % HR-5 (Retarder)

0.2 % Super CBL (Gas Migration Control)

Fluid Weight 15.80 lbm/gal

Slurry Yield: 1.15 ft<sup>3</sup>/sk

Total Mixing Fluid: 4.94 Gal/sk

Top of Fluid: 4116 ft

Calculated Fill: 500 ft

Volume: 35.17 bbl

Calculated Sacks: 171.39 sks

Proposed Sacks: 175 sks

**Fluid 6: Mud**

Mud Displacement

Fluid Density: 10 lbm/gal

Fluid Volume 353.77 bbl

**Detailed Pumping Schedule**

Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Estimated Avg Rate bbl/min	Downhole Volume
1	Spacer	Fresh Water	8.3		20 bbl
2	Spacer	SUPER FLUSH 101	10.0		40 bbl
3	Spacer	Fresh Water	8.3		20 bbl
4	Cement	EconoCem V3	11.0		365 sks
5	Cement	Premium Cement	15.8		175 sks
6	Mud	Mud Displacement	10.0		353.77 bbl

**Job Information****4 1/2" Casing Option #1**

---

Well Name: Ute Tribal

Well #: 5-32-14-20

**9 5/8" Intermediate Casing**

0 - 4616 ft (MD)

Outer Diameter

9.625 in

Inner Diameter

8.921 in

Linear Weight

36 lbm/ft

Casing Grade

J-55

**7 7/8" Open Hole**

4616 - 12338 ft (MD)

Inner Diameter

7.875 in

Job Excess

15 %

**4 1/2" Production Casing**

0 - 12338 ft (MD)

Outer Diameter

4.500 in

Inner Diameter

4.000 in

Linear Weight

11.60 lbm/ft

Casing Grade

P-110

Mud Weight

9 lbm/gal

BHCT

180 degF

**Calculations****4 1/2" Casing Option #1**

Spacer:

$$\begin{aligned} 173.00 \text{ ft} * 0.3236 \text{ ft}^3/\text{ft} * 0 \% &= 55.99 \text{ ft}^3 \\ \text{Total Spacer} &= 56.15 \text{ ft}^3 \\ &= 10.00 \text{ bbl} \end{aligned}$$

Spacer:

$$\begin{aligned} 347.00 \text{ ft} * 0.3236 \text{ ft}^3/\text{ft} * 0 \% &= 112.30 \text{ ft}^3 \\ \text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl} \end{aligned}$$

Spacer:

$$\begin{aligned} 173.00 \text{ ft} * 0.3236 \text{ ft}^3/\text{ft} * 0 \% &= 55.99 \text{ ft}^3 \\ \text{Total Spacer} &= 56.15 \text{ ft}^3 \\ &= 10.00 \text{ bbl} \end{aligned}$$

Cement : (6055.00 ft fill)

$$\begin{aligned} 200.00 \text{ ft} * 0.3236 \text{ ft}^3/\text{ft} * 0 \% &= 64.72 \text{ ft}^3 \\ 5855.00 \text{ ft} * 0.2278 \text{ ft}^3/\text{ft} * 15 \% &= 1533.81 \text{ ft}^3 \\ \text{Total Foamed Lead Cement} &= 1598.53 \text{ ft}^3 \\ &= 284.71 \text{ bbl} \\ \text{Sacks of Cement} &= 796 \text{ sks} \end{aligned}$$

Cement : (1867.00 ft fill)

$$\begin{aligned} 1867.00 \text{ ft} * 0.2278 \text{ ft}^3/\text{ft} * 15 \% &= 489.09 \text{ ft}^3 \\ \text{Tail Cement} &= 489.09 \text{ ft}^3 \\ &= 87.11 \text{ bbl} \end{aligned}$$

Shoe Joint Volume: (40.00 ft fill)

$$\begin{aligned} 40.00 \text{ ft} * 0.0873 \text{ ft}^3/\text{ft} &= 3.49 \text{ ft}^3 \\ &= 0.62 \text{ bbl} \\ \text{Tail plus shoe joint} &= 492.58 \text{ ft}^3 \\ &= 87.73 \text{ bbl} \\ \text{Total Tail} &= 335 \text{ sks} \end{aligned}$$

Total Pipe Capacity:

$$\begin{aligned} 12338.00 \text{ ft} * 0.0873 \text{ ft}^3/\text{ft} &= 1076.69 \text{ ft}^3 \\ &= 191.77 \text{ bbl} \end{aligned}$$

Displacement Volume to Shoe Joint:

$$\begin{aligned} \text{Capacity of Pipe - Shoe Joint} &= 191.77 \text{ bbl} - 0.62 \text{ bbl} \\ &= 191.15 \text{ bbl} \end{aligned}$$

**Job Recommendation****4 1/2" Casing Option #1****Fluid Instructions****Fluid 1: Water Spacer****Fresh Water****Fluid Density: 8.34 lbm/gal****Fluid Volume: 10 bbl****Fluid 2: Reactive Spacer****SUPER FLUSH****Fluid Density: 10 lbm/gal****Fluid Volume: 20 bbl****Fluid 3: Water Spacer****Fresh Water****Fluid Density: 8.34 lbm/gal****Fluid Volume: 10 bbl****Fluid 4: Foamed Lead Cement****ELASTISEAL (TM) SYSTEM****1.5 % FDP-C760-04 (Foamer)****Fluid Weight 14.30 lbm/gal****Slurry Yield: 1.47 ft<sup>3</sup>/sk****Total Mixing Fluid: 6.41 Gal/sk****Top of Fluid: 4416 ft****Calculated Fill: 6055 ft****Volume: 284.71 bbl****Calculated Sacks: 795.89 sks****Proposed Sacks: 800 sks****Fluid 5: Tail Cement****ELASTICEM (TM) SYSTEM****Fluid Weight 14.30 lbm/gal****Slurry Yield: 1.47 ft<sup>3</sup>/sk****Total Mixing Fluid: 6.40 Gal/sk****Top of Fluid: 10471 ft****Calculated Fill: 1867 ft****Volume: 87.73 bbl****Calculated Sacks: 335.32 sks****Proposed Sacks: 340 sks****Fluid 6: Water Spacer****Displacement****Fluid Density: 8.34 lbm/gal****Fluid Volume: 191.15 bbl****Fluid 7: Top Out Cement****Premium Cement****94 lbm/sk Premium Cement (Cement)****12 % Cal-Seal 60 (Accelerator)****3 % Calcium Chloride (Accelerator)****Fluid Weight 14.60 lbm/gal****Slurry Yield: 1.55 ft<sup>3</sup>/sk****Total Mixing Fluid: 7.35 Gal/sk****Proposed Sacks: 200 sks**



**Job Procedure****4 1/2" Casing Option #1****Detailed Pumping Schedule**

Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Estimated Avg Rate bbl/min	Downhole Volume
1	Spacer	Fresh Water	8.3		10 bbl
2	Spacer	SUPER FLUSH	10.0		20 bbl
3	Spacer	Fresh Water	8.3		10 bbl
4	Cement	ELASTISEAL SYSTEM	14.3		800 sks
5	Cement	ELASTISEAL SYSTEM	14.3		340 sks
6	Spacer	Displacement	8.3		191.15 bbl
7	Cement	Cap Cement	14.6		200 sks

**Foam Output Parameter Summary:**

Fluid #	Fluid Name	Unfoamed Liquid Volume	Beginning Density lbm/gal	Ending Density lbm/gal	Beginning Rate scf/bbl	Ending Rate scf/bbl
<b>Stage 1</b>						
4	ELASTISEAL SYSTEM	208.38bbl	11.0	11.0	236.2	589.1

**Foam Design Specifications:**

Foam Calculation Method: Constant Density  
Backpressure: 75 psig  
Bottom Hole Circulating Temp: 180 degF  
Mud Outlet Temperature: 120 degF

Calculated Gas = 86691.0 scf  
Additional Gas = 40000 scf  
Total Gas = 126691.0 scf

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-44317			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE			
<b>2. NAME OF OPERATOR:</b> WHITING OIL & GAS CORPORATION		<b>7. UNIT or CA AGREEMENT NAME:</b>			
<b>3. ADDRESS OF OPERATOR:</b> 1700 Broadway, Suite 2300 , Denver, CO, 80290 2300		<b>8. WELL NAME and NUMBER:</b> UTE TRIBAL 5-32-14-20			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0809 FNL 1529 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 32 Township: 14.0S Range: 20.0E Meridian: S		<b>9. API NUMBER:</b> 43047397410000			
<b>PHONE NUMBER:</b> 303 390-4095 Ext		<b>9. FIELD and POOL or WILDCAT:</b> FLAT ROCK			
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 11/15/2009  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input checked="" type="checkbox"/> <b>ALTER CASING</b>  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER:         </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input checked="" type="checkbox"/> <b>ALTER CASING</b> <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER:
<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input checked="" type="checkbox"/> <b>ALTER CASING</b> <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER:			
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> Whiting Oil and Gas Corporation is requesting a change in the casing design for this well. They would like to change from a 4-1/2" production casing run in the Wingate to a 7" casing set in the Curtis with a liner into the Wingate. Please see the attached Summary, Drilling Program, Wellbore Design, and corrected directional and cementing plans showing the adjusted casing design.					
<div style="text-align: right;"> <b>Approved by the Utah Division of Oil, Gas and Mining</b>   <b>Date:</b> <u>November 05, 2009</u>  <b>By:</b> <u><i>Dan K. Quist</i></u> </div>					
<b>NAME (PLEASE PRINT)</b> Terri Hartle		<b>PHONE NUMBER</b> 435 896-5501			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Admin/Regulatory (Western Land Services)			
<b>DATE</b> 10/29/2009					



**The Utah Division of Oil, Gas, and Mining**

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices**

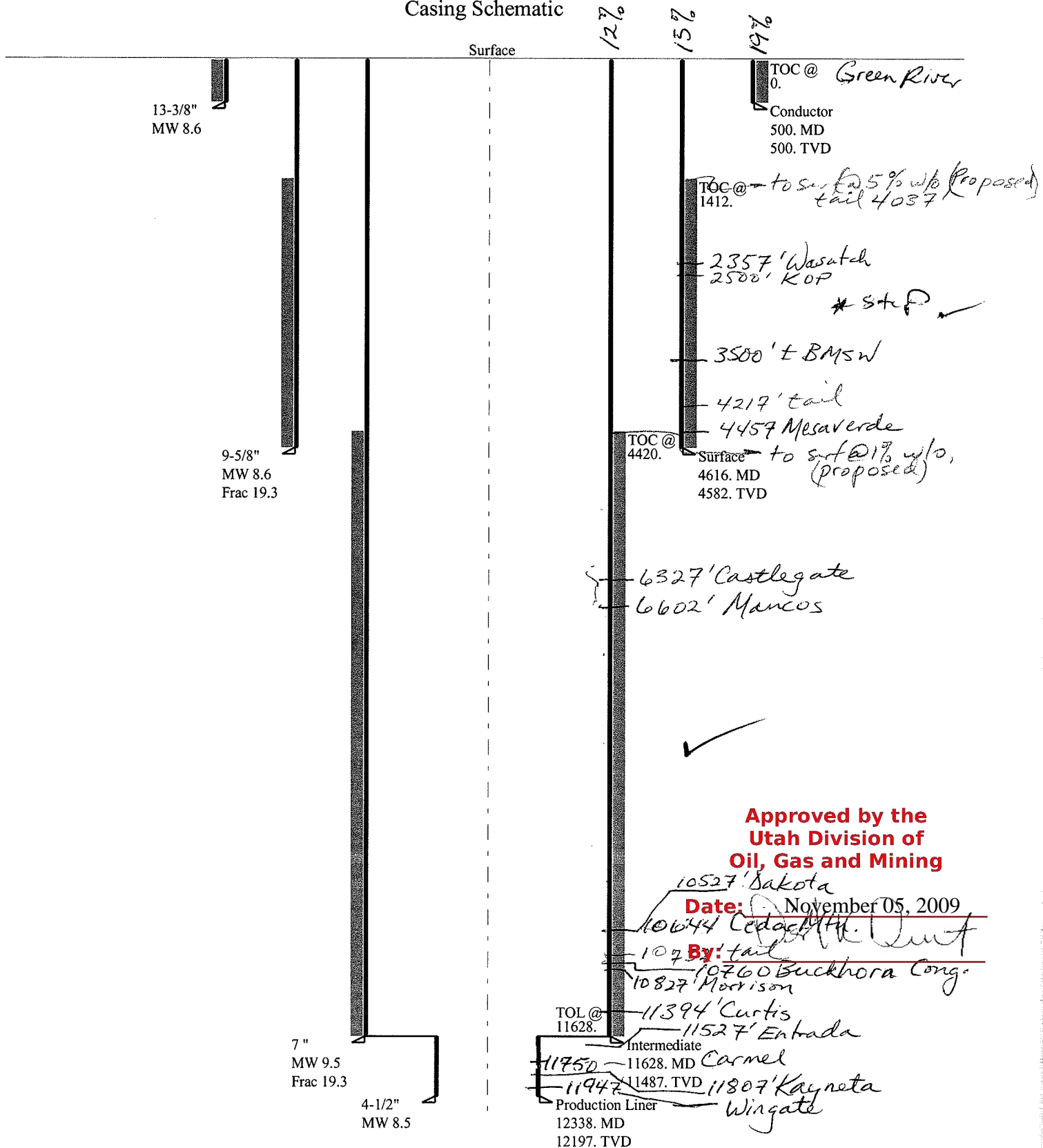
**Sundry Conditions of Approval Well Number 43047397410000**

**9 5/8" Surface casing shall be cemented from setting depth back to the surface.**

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Date:** November 05, 2009  
**By:** *Dan K. Quist*

Casing Schematic



Well name:	<b>43047397410000 Ute Tribal 5-32-14-20revB</b>	
Operator:	<b>Whiting Oil and Gas</b>	Project ID:
String type:	Conductor	43-047-39741-0000
Location:	Uintah County	

**Design parameters:**
**Collapse**

Mud weight: 8.600 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**
**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 75 °F  
Bottom hole temperature: 82 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 300 ft

Cement top: Surface

**Burst**

Max anticipated surface pressure: 163 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 223 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Tension is based on buoyed weight.  
Neutral point: 437 ft

**Non-directional string.**

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	500	13.375	48.00	H-40	ST&C	500	500	12.59	440.8

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	223	740	3.313	223	1730	7.75	21	322	15.35 J

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Date:** November 05, 2009

**By:** 

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801-538-5357  
FAX: 801-359-3940

Date: November 3, 2009  
Salt Lake City, Utah

formerly 2007-11 Miller Dyer Ute Tribal 3-

Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Collapse is based on a vertical depth of 500 ft, a mud weight of 8.6 ppg. The casing is considered to be evacuated for collapse purposes.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

Well name:

**43047397410000 Ute Tribal 5-32-14-20revB**Operator: **Whiting Oil and Gas**String type: **Surface**

Project ID:

**43-047-39741-0000**Location: **Uintah County****Design parameters:****Collapse**

Mud weight: 8.600 ppg  
Internal fluid density: 1.500 ppg

**Minimum design factors:****Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 75 °F  
Bottom hole temperature: 139 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 300 ft

Cement top: 1,412 ft

**Burst**

Max anticipated surface pressure: 3,142 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP: 4,150 psi  
  
Annular backup: 2.33 ppg

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Tension is based on buoyed weight.  
Neutral point: 4,021 ft

**Directional Info - Build & Drop**

Kick-off point: 2500 ft  
Departure at shoe: 362 ft  
Maximum dogleg: 2 °/100ft  
Inclination at shoe: 11.38 °

**Re subsequent strings:**

Next setting depth: 11,487 ft  
Next mud weight: 9.500 ppg  
Next setting BHP: 5,669 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 4,582 ft  
Injection pressure: 4,582 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	4616	9.625	36.00	J-55	LT&C	4582	4616	8.796	2003.6
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	1690	2020	1.195	3595	3520	0.98	144	453	3.15 J

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

Date: November 05, 2009By: 

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801-538-5357  
FAX: 801-359-3940

Date: November 3, 2009  
Salt Lake City, Utah

formerly 2007-11 Miller Dyer Ute Tribal 3-

Collapse strength is based on the Westcott, Dunlop &amp; Kemler method of biaxial correction for tension.

Collapse is based on a vertical depth of 4582 ft, a mud weight of 8.6 ppg. An internal gradient of .078 psi/ft was used for collapse from TD to Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

*Engineering responsibility for use of this design will be that of the purchaser.*

Well name:

**43047397410000 Ute Tribal 5-32-14-20revB**

Operator:

**Whiting Oil and Gas**

String type:

Intermediate

Project ID:

43-047-39741-0000

Location:

Uintah County

**Design parameters:****Collapse**

Mud weight: 9.500 ppg  
Design is based on evacuated pipe.

**Minimum design factors:****Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 75 °F  
Bottom hole temperature: 236 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,500 ft

Cement top: 4,420 ft

**Burst**

Max anticipated surface pressure: 3,142 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 5,669 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Tension is based on buoyed weight.  
Neutral point: 9,974 ft

**Directional Info - Build & Drop**

Kick-off point 2500 ft  
Departure at shoe: 1463 ft  
Maximum dogleg: 2 °/100ft  
Inclination at shoe: 0 °

**Re subsequent strings:**

Next setting depth: 12,197 ft  
Next mud weight: 8.500 ppg  
Next setting BHP: 5,386 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 11,487 ft  
Injection pressure: 11,487 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	11628	7	29.00	L-80	LT&C	11487	11628	6.059	2425.3
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	5669	7020	1.238	5669	8160	1.44	285	587	2.06 J

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

Date: November 05, 2009

By: 

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801-538-5357  
FAX: 801-359-3940

Date: November 3, 2009  
Salt Lake City, Utah

formerly 2007-11 Miller Dyer Ute Tribal 3-

Collapse strength is based on the Westcott, Dunlop &amp; Kemler method of biaxial correction for tension.

Collapse is based on a vertical depth of 11487 ft, a mud weight of 9.5 ppg. The casing is considered to be evacuated for collapse purposes.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

*Engineering responsibility for use of this design will be that of the purchaser.*

Well name:	<b>43047397410000 Ute Tribal 5-32-14-20revB</b>	
Operator:	<b>Whiting Oil and Gas</b>	
String type:	Production Liner	Project ID: 43-047-39741-0000
Location:	Uintah County	

**Design parameters:**
**Collapse**

Mud weight: 8.500 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**
**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 75 °F  
Bottom hole temperature: 246 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,500 ft

**Burst**

Max anticipated surface pressure: 2,702 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 5,386 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Tension is based on buoyed weight.  
Neutral point: 12,244 ft

Liner top: 11,628 ft

**Directional Info - Build & Drop**

Kick-off point 2500 ft  
Departure at shoe: 1463 ft  
Maximum dogleg: 0 °/100ft  
Inclination at shoe: 0 °

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	738	4.5	11.60	P-110	LT&C	12197	12338	3.875	64.4

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	5386	7580	1.407	5386	10690	1.98	7	279	37.33 J

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Date:** November 05, 2009

**By:**

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801-538-5357  
FAX: 801-359-3940

Date: November 3, 2009  
Salt Lake City, Utah

formerly 2007-11 Miller Dyer Ute Tribal 3-

Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

For this liner string, the top is rounded to the nearest 100 ft. Collapse is based on a vertical depth of 12197 ft, a mud weight of 8.5 ppg. The Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

*Engineering responsibility for use of this design will be that of the purchaser.*



**Whiting Oil & Gas Corp.  
Ute Tribal 5-32-14-20 Well Plan  
Directional Wingate well  
Change Casing Design  
October 23, 2009**

Surface Location: NENW 32-T14S-R20E SLB&M  
809' FNL & 1529' FWL  
Uintah County, Utah

**SUMMARY:**

Whiting Oil & Gas Corp. is requesting a change in the casing design for the Ute Tribal 5-32-14-20. WOGC would like change from a 4-1/2" production casing run in the Wingate, to a 7" casing set in the Curtis with a liner into the Wingate. The design will be to drill the 2<sup>nd</sup> intermediate section with an 8-3/4" openhole to 50' above the Entrada in the Curtis formation. 7" casing will be set, a 6" openhole section will be drilled into the Entrada and Wingate formation. The section will be drilled with an aerated 3% KCl mud system. At TD, a liner packer system will be run with hydraulic packers to isolate the Entrada and Wingate formation. The Entrada formation will be probably be flowed naturally. The Wingate formation may need to be frac'd.

This change in casing design does not change the SHL, BHL or Directional plan.

**DRILLING PROGRAM**

**1. ESTIMATED TOPS OF GEOLOGICAL MARKERS:**

Ground Level 7,499'      Estimated KB 7,527' (28')

<b>Formation</b>	<b>TVD</b>	<b>Lithology</b>	<b>Hazard</b>
Green River	28'	Oil Shale	Oil/Gas
Wasatch	2,357'	SS-SH	Oil/Gas
Mesaverde	4,457'	SS-SH	Oil
Castlegate SS	6,327'	Sandstone	Gas
Mancos	6,602'	SS-SH	Gas
Dakota	10,527'	Sandstone	Gas
Cedar Mtn	10,644'	Sandstone	Gas
Buckhorn Congl	10,760'	SS-SH	Gas
Morrison	10,827'	SS-SH	Gas
Curtis	11,394'	SS-SH	Gas
Entrada	11,527'	Sandstone	Gas
Carmel	11,750'	LS-SH	
Kayenta	11,807'	Sandstone	Gas
Wingate	11,947'	Sandstone	Gas
Total Depth	12,197'		

Bottom Hole Location: SWNW 32-T14S-R20E SLB&M  
1980' FSL & 660' FWL  
Uintah County, Utah

\*See Attached Directional Well Plan

## 2. PRESSURE CONTROL EQUIPMENT

- A. Type:**
- 11" 5000 psi annular preventer
  - 11" 5000 psi double ram hydraulic BOP
    - 1 – Blind Ram
    - 1 - Pipe Ram
  - Drilling Spool
    - Kill lines will be 2" x 5,000 psi working pressure
    - Choke lines will be 3" x 5,000 psi working pressure
  - 5,000 psi Casing head

**B. Testing Procedure:**

The annular preventer will be pressure tested to 50% of stack rated working pressure for ten (10) minutes or until provisions of test are met, whichever is longer. The BOP, choke manifold, and related equipment will be pressure tested to approved BOP stack working pressure (if isolated from surface casing by a test plug) or to 70% of surface casing internal yield strength (if BOP is not isolated by a test plug). Pressure will be maintained for ten (10) minutes or until the requirements of the test are met, whichever is longer. At a minimum, the Annular and Blow-Out Preventer pressure tests will be performed:

1. When the BOPE is initially installed;
2. Whenever any seal subject to test pressure is broken;
3. Following related repairs; and
4. At thirty (30) day intervals.

Annular will be function tested weekly, and pipe & blind rams activated each trip, but not more than once per day. All BOP drills & tests will be recorded in IADC driller's log.

**C. Choke Manifold Equipment:**

All choke lines will be straight lines whenever possible at turns, tee blocks will be used or will be targeted with running tees, and will be anchored to prevent whip and vibration.

**D. Accumulator:**

Accumulator will have sufficient capacity to open hydraulically-controlled choke line valve (if so equipped), close all rams plus annular preventer, and retain a minimum of 200 psi above precharge on the closing manifold without the use of closing unit pumps. The fluid reservoir capacity will be double accumulator capacity and the fluid level will be maintained at manufacturer's recommendations. Accumulator precharge pressure test will be conducted prior to connecting the closing unit to the BOP stack.

**E. Miscellaneous Information:**

Choke manifold and BOP extension rods with hand wheels will be located outside rig sub-structure. Hydraulic BOP closing unit will be located at least twenty-five (25) feet from the wellhead but readily accessible to the driller. Exact locations and configurations of the hydraulic BOP closing unit will depend upon the particular rig contracted to drill this hole. A flare line will be installed after the choke manifold with the discharge point of the flare line to a separate pit located at least 125 feet away from the wellbore and any existing production facilities.

### 3. PROPOSED CASING PROGRAM

<u>Hole Size</u>	<u>Setting Depth (MD)</u>	<u>Casing Size</u>	<u>Wt./Ft.</u>	<u>Grade</u>	<u>Thread</u>
17-1/2"	500'	13-3/8"	48.00	H-40	STC
12-1/4"	4,616'	9-5/8"	36.00	J-55	LTC
8-3/4"	11,628'	7"	29.00	L-80	LTC
6"	12,338'	4-1/2" Liner	11.60	P-110	LTC

\*See Attached Liner Drawing

### 4. PROPOSED CEMENTING PROGRAM

SURFACE 500' MD: TOC Surface (100% Excess)

Single Stage: 395 sacks, Rockies LT

Top out Cement: 200 sacks, Premium Plus - Type III

<u>Cement Properties</u>	<u>Slurry</u>	<u>Top out Cement</u>
Slurry Weight (ppg)	13.5	14.5
Slurry Yield (cf/sack)	1.80	1.41

1<sup>st</sup> INTERMEDIATE 4,616' MD: TOC Surface (75% Excess, TOT: 4100' MD, TOL: 200' into surface casing)

Lead: 425 sacks Halliburton ECONOCEM SYSTEM

Tail: 200 sacks Halliburton Premium Cement

<u>Cement Properties</u>	<u>Lead Slurry</u>	<u>Tail Slurry</u>
Slurry Weight (ppg)	11.0	15.8
Slurry Yield (cf/sack)	3.81	1.15

2<sup>nd</sup> INTERMEDIATE 11,628' MD: TOC Surface (Capiler + 25% Excess, TOT: 10,473' MD above the Dakota Silt, TOL: 200' into 9-5/8" casing)

Lead: 470 sacks Halliburton Foamed Lead Cement Elastiseal System

Tail: 135 sacks Halliburton Elastiseal System

<u>Cement Properties</u>	<u>Lead Slurry</u>	<u>Tail Slurry</u>
Slurry Weight (ppg)	14.30	14.30
Slurry Yield (cf/sack)	1.47	1.47

#### **Foam Design Specifications:**

Foam Calculation Method: Constant Density  
Backpressure: 75 psig  
Bottom Hole Circulating Temp: 180 degF  
Mud Outlet Temperature: 120 degF

Calculated Gas = 67212.7 scf  
Additional Gas = 40000 scf  
Total Gas = 107212.7 scf

## 5. MUD PROGRAM

<u>Depth (MD)</u>	<u>Mud System</u>	<u>MW</u>	<u>PV</u>	<u>YP</u>	<u>FL</u>
0 - 500	Air	N/A	N/A	N/A	N/A
500' – 4,616'	Spud Mud	8.4 – 8.6	0 - 15	0 - 10	N/C
4,616' – 11,628'	3% KCL / Polymer	8.6 – 9.5	5 - 10	5 - 15	>8
11,628' - TD	Aerated 3% KCl	8.5	5 - 10	5 - 15	>6

Surface hole (0' – 500') will be drilled with an Air Drilling Rig using an air/foam package. Air/foam package will consist of compressors, booster, and foam unit. Package will compress 3200 SCFM of air and a fluid package capable of pumping 60 gpm nominal, of fluid to 600 psig. This same package will move 2100 SCFM two staged @ 1500 psig.

### Special Drilling Operations

- Rotating Head
- Blooie line discharge 100 feet from well bore and securely anchored
- Straight run on blooie line
- Compressors located in the opposite direction from the blooie line
- Compressors located a minimum of 100 feet the well bore

Production Hole (11,628' – 12,338' MD) will be drilled with an aerated 3% KCl mud system. Air package will consist of compressors, booster, and foam unit. Package will compress 3200 SCFM of air and a fluid package capable of pumping 60 gpm nominal, of fluid to 600 psig. This same package will move 2100 SCFM two staged @ 1500 psig

## 6. Testing, Logging and Core Programs

Cores: None planned  
DST: None planned

Surveys: Per Directional Plan

Mud Logger: Surface

Samples: 30' samples from surface to Entrada  
10' samples to TD

Open Hole Logging Program: Triple Combo TD to 1<sup>st</sup> Intermediate

## 7. ANTICIPATED ABNORMAL PRESSURES OR TEMPERATURES:

No H<sub>2</sub>S gas is anticipated.

Maximum pressure at the base of the Curtis, 4,995 psi (0.433 psi/ft normal pressure gradient) at 11,537' TVD.

Anticipated bottomhole pressure at TD is 4,269 psi (0.35 psi/ft) at 12,197' TVD (6.73 ppg equivalent).

Normal BHT calculated at 1.25°F/100' with a 65°F surface Temperature.  
BHT @ 12,197' TVD = 217°F.

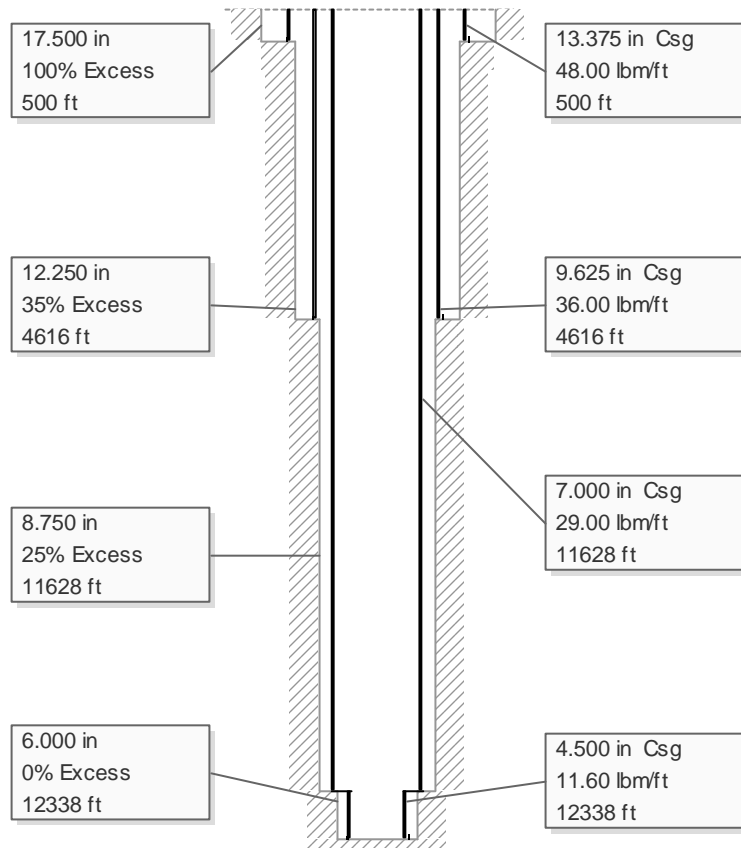
**8. ANTICIPATED STARTING DATE AND DURATION:**

Dirt work startup:    Location Built

Spud:                      October 2009

Duration:                35 - 40 days

**Ute Tribal 5-32-14-20 Wingate**  
**Flat Rock Field**  
**Uintah County, Utah**  
**Wingate Directional Well**  
**Entrada Wingate Liner Completion**  
**SHL: NENW 32-14S-20E**  
**BHL: SWNW 32-14S-20E**  
**Wellbore Design**



**i-Handbook\*** - \*a mark of Schlumberger

# **Whiting Petroleum Corporation**

**Uintah County, UT  
Section 32-T14S-R20E  
UTE Tribal 5-32-14-20  
Well**

**Plan: Plan #1**

## **Standard Planning Report**

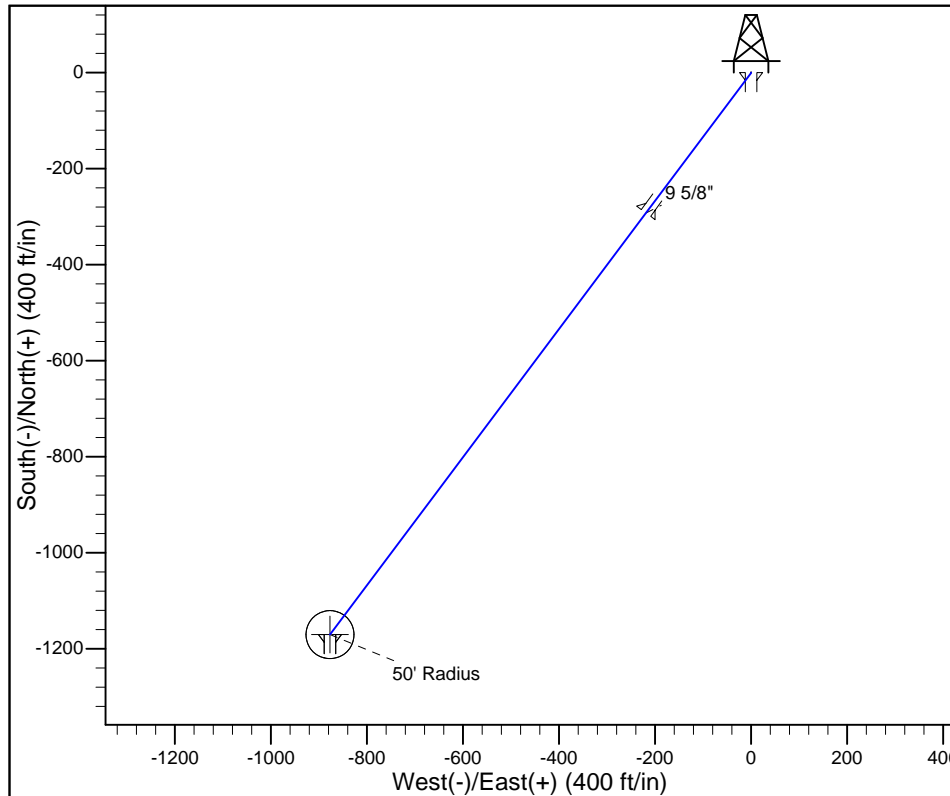
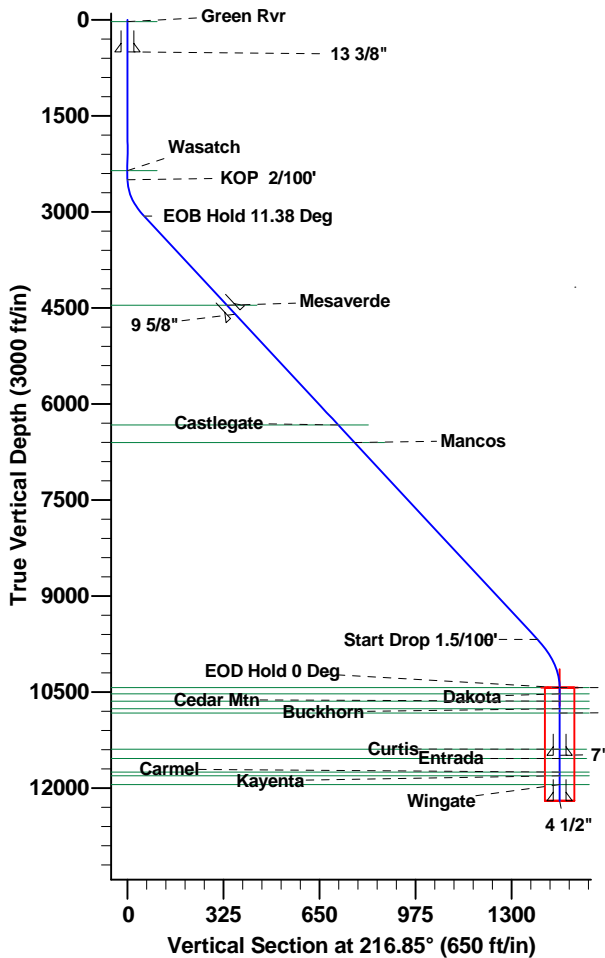
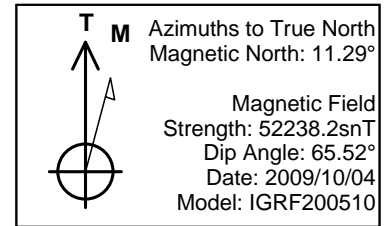
**22 October, 2009**

**Whiting Petroleum Corporation**  
**UTE Tribal 5-32-14-20**  
**Uintah County, UT**  
**Plan #1**



**PROJECT DETAILS: Uintah County, UT**

Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: Utah Central Zone  
  
 System Datum: Mean Sea Level



**FORMATION TOP DETAILS**

TVDPath	MDPath	Formation
28.0	28.0	Green Rvr
2357.0	2357.0	Wasatch
4457.0	4488.7	Mesaverde
6327.0	6396.2	Castlegate
6602.0	6676.7	Mancos
10432.0	10573.4	Dakota Silt
10527.0	10668.4	Dakota
10644.0	10785.4	Cedar Mtn
10760.0	10901.4	Buckhorn
10827.0	10968.4	Morrison
11394.0	11535.4	Curtis
11537.0	11678.4	Entrada
11750.0	11891.4	Carmel
11807.0	11948.4	Kayenta
11947.0	12088.4	Wingate

**SECTION DETAILS**

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
2	2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0
3	3069.1	11.38	216.85	3065.4	-45.1	-33.8	2.00	216.85	56.3
4	9814.6	11.38	216.85	9678.2	-1110.4	-832.1	0.00	0.00	1387.6
5	10573.4	0.00	0.00	10432.0	-1170.5	-877.1	1.50	180.00	1462.7
6	12338.4	0.00	0.00	12197.0	-1170.5	-877.1	0.00	0.00	1462.7

5-32-14-20



## Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well UTE Tribal 5-32-14-20
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Project:</b>	Uintah County, UT	<b>MD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Site:</b>	Section 32-T14S-R20E	<b>North Reference:</b>	True
<b>Well:</b>	UTE Tribal 5-32-14-20	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Well		
<b>Design:</b>	Plan #1		

<b>Project</b>	Uintah County, UT		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Utah Central Zone		

Site		Section 32-T14S-R20E			
Site Position:		Northing:	7,013,846.02ft	Latitude:	39° 33' 39.240 N
From:	Lat/Long	Easting:	2,145,484.00ft	Longitude:	109° 42' 30.161 W
Position Uncertainty:		Slot Radius:	"	Grid Convergence:	1.15 °

Well	UTE Tribal 5-32-14-20					
Well Position	+N-S	0.0 ft	Northing:	7,013,837.29 ft	Latitude:	39° 33' 39.020 N
	+E-W	0.0 ft	Easting:	2,146,160.24 ft	Longitude:	109° 42' 21.530 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	7,527.0 ft	Ground Level:	7,499.0 ft

<b>Wellbore</b>	Well				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	2009/10/04	11.29	65.52	52,238

<b>Design</b>	Plan #1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE		<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	216.85	

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,069.1	11.38	216.85	3,065.4	-45.1	-33.8	2.00	2.00	0.00	216.85	
9,814.6	11.38	216.85	9,678.2	-1,110.4	-832.1	0.00	0.00	0.00	0.00	
10,573.4	0.00	0.00	10,432.0	-1,170.5	-877.1	1.50	-1.50	0.00	180.00	5-32-14-20
12,338.4	0.00	0.00	12,197.0	-1,170.5	-877.1	0.00	0.00	0.00	0.00	

# Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well UTE Tribal 5-32-14-20
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Project:</b>	Uintah County, UT	<b>MD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Site:</b>	Section 32-T14S-R20E	<b>North Reference:</b>	True
<b>Well:</b>	UTE Tribal 5-32-14-20	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Well		
<b>Design:</b>	Plan #1		

## Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
28.0	0.00	0.00	28.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Green Rvr</b>									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>13 3/8"</b>									
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,357.0	0.00	0.00	2,357.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Wasatch</b>									
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP 2'/100'</b>									
2,600.0	2.00	216.85	2,600.0	-1.4	-1.0	1.7	2.00	2.00	0.00
2,700.0	4.00	216.85	2,699.8	-5.6	-4.2	7.0	2.00	2.00	0.00
2,800.0	6.00	216.85	2,799.5	-12.6	-9.4	15.7	2.00	2.00	0.00
2,900.0	8.00	216.85	2,898.7	-22.3	-16.7	27.9	2.00	2.00	0.00
3,000.0	10.00	216.85	2,997.5	-34.8	-26.1	43.5	2.00	2.00	0.00
3,069.1	11.38	216.85	3,065.4	-45.1	-33.8	56.3	2.00	2.00	0.00
<b>EOB Hold 11.38 Deg</b>									
3,100.0	11.38	216.85	3,095.7	-50.0	-37.4	62.4	0.00	0.00	0.00
3,200.0	11.38	216.85	3,193.7	-65.8	-49.3	82.2	0.00	0.00	0.00
3,300.0	11.38	216.85	3,291.7	-81.6	-61.1	101.9	0.00	0.00	0.00
3,400.0	11.38	216.85	3,389.8	-97.3	-72.9	121.6	0.00	0.00	0.00
3,500.0	11.38	216.85	3,487.8	-113.1	-84.8	141.4	0.00	0.00	0.00
3,600.0	11.38	216.85	3,585.8	-128.9	-96.6	161.1	0.00	0.00	0.00
3,700.0	11.38	216.85	3,683.9	-144.7	-108.5	180.9	0.00	0.00	0.00
3,800.0	11.38	216.85	3,781.9	-160.5	-120.3	200.6	0.00	0.00	0.00
3,900.0	11.38	216.85	3,879.9	-176.3	-132.1	220.3	0.00	0.00	0.00
4,000.0	11.38	216.85	3,978.0	-192.1	-144.0	240.1	0.00	0.00	0.00
4,100.0	11.38	216.85	4,076.0	-207.9	-155.8	259.8	0.00	0.00	0.00
4,200.0	11.38	216.85	4,174.0	-223.7	-167.6	279.5	0.00	0.00	0.00
4,300.0	11.38	216.85	4,272.1	-239.5	-179.5	299.3	0.00	0.00	0.00
4,400.0	11.38	216.85	4,370.1	-255.3	-191.3	319.0	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well UTE Tribal 5-32-14-20
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Project:</b>	Uintah County, UT	<b>MD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Site:</b>	Section 32-T14S-R20E	<b>North Reference:</b>	True
<b>Well:</b>	UTE Tribal 5-32-14-20	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Well		
<b>Design:</b>	Plan #1		

## Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,488.7	11.38	216.85	4,457.0	-269.3	-201.8	336.5	0.00	0.00	0.00
<b>Mesaverde</b>									
4,500.0	11.38	216.85	4,468.1	-271.1	-203.1	338.7	0.00	0.00	0.00
4,600.0	11.38	216.85	4,566.2	-286.9	-215.0	358.5	0.00	0.00	0.00
4,634.5	11.38	216.85	4,600.0	-292.3	-219.0	365.3	0.00	0.00	0.00
<b>9 5/8"</b>									
4,700.0	11.38	216.85	4,664.2	-302.7	-226.8	378.2	0.00	0.00	0.00
4,800.0	11.38	216.85	4,762.2	-318.5	-238.6	397.9	0.00	0.00	0.00
4,900.0	11.38	216.85	4,860.3	-334.2	-250.5	417.7	0.00	0.00	0.00
5,000.0	11.38	216.85	4,958.3	-350.0	-262.3	437.4	0.00	0.00	0.00
5,100.0	11.38	216.85	5,056.3	-365.8	-274.1	457.1	0.00	0.00	0.00
5,200.0	11.38	216.85	5,154.4	-381.6	-286.0	476.9	0.00	0.00	0.00
5,300.0	11.38	216.85	5,252.4	-397.4	-297.8	496.6	0.00	0.00	0.00
5,400.0	11.38	216.85	5,350.4	-413.2	-309.6	516.4	0.00	0.00	0.00
5,500.0	11.38	216.85	5,448.5	-429.0	-321.5	536.1	0.00	0.00	0.00
5,600.0	11.38	216.85	5,546.5	-444.8	-333.3	555.8	0.00	0.00	0.00
5,700.0	11.38	216.85	5,644.5	-460.6	-345.1	575.6	0.00	0.00	0.00
5,800.0	11.38	216.85	5,742.6	-476.4	-357.0	595.3	0.00	0.00	0.00
5,900.0	11.38	216.85	5,840.6	-492.2	-368.8	615.0	0.00	0.00	0.00
6,000.0	11.38	216.85	5,938.6	-508.0	-380.6	634.8	0.00	0.00	0.00
6,100.0	11.38	216.85	6,036.7	-523.8	-392.5	654.5	0.00	0.00	0.00
6,200.0	11.38	216.85	6,134.7	-539.6	-404.3	674.2	0.00	0.00	0.00
6,300.0	11.38	216.85	6,232.7	-555.4	-416.2	694.0	0.00	0.00	0.00
6,396.2	11.38	216.85	6,327.0	-570.5	-427.5	713.0	0.00	0.00	0.00
<b>Castlegate</b>									
6,400.0	11.38	216.85	6,330.8	-571.1	-428.0	713.7	0.00	0.00	0.00
6,500.0	11.38	216.85	6,428.8	-586.9	-439.8	733.4	0.00	0.00	0.00
6,600.0	11.38	216.85	6,526.8	-602.7	-451.7	753.2	0.00	0.00	0.00
6,676.7	11.38	216.85	6,602.0	-614.8	-460.7	768.3	0.00	0.00	0.00
<b>Mancos</b>									
6,700.0	11.38	216.85	6,624.9	-618.5	-463.5	772.9	0.00	0.00	0.00
6,800.0	11.38	216.85	6,722.9	-634.3	-475.3	792.7	0.00	0.00	0.00
6,900.0	11.38	216.85	6,820.9	-650.1	-487.2	812.4	0.00	0.00	0.00
7,000.0	11.38	216.85	6,919.0	-665.9	-499.0	832.1	0.00	0.00	0.00
7,100.0	11.38	216.85	7,017.0	-681.7	-510.8	851.9	0.00	0.00	0.00
7,200.0	11.38	216.85	7,115.0	-697.5	-522.7	871.6	0.00	0.00	0.00
7,300.0	11.38	216.85	7,213.1	-713.3	-534.5	891.3	0.00	0.00	0.00
7,400.0	11.38	216.85	7,311.1	-729.1	-546.3	911.1	0.00	0.00	0.00
7,500.0	11.38	216.85	7,409.1	-744.9	-558.2	930.8	0.00	0.00	0.00
7,600.0	11.38	216.85	7,507.2	-760.7	-570.0	950.5	0.00	0.00	0.00
7,700.0	11.38	216.85	7,605.2	-776.5	-581.8	970.3	0.00	0.00	0.00
7,800.0	11.38	216.85	7,703.2	-792.3	-593.7	990.0	0.00	0.00	0.00
7,900.0	11.38	216.85	7,801.3	-808.0	-605.5	1,009.7	0.00	0.00	0.00
8,000.0	11.38	216.85	7,899.3	-823.8	-617.3	1,029.5	0.00	0.00	0.00
8,100.0	11.38	216.85	7,997.3	-839.6	-629.2	1,049.2	0.00	0.00	0.00
8,200.0	11.38	216.85	8,095.4	-855.4	-641.0	1,068.9	0.00	0.00	0.00
8,300.0	11.38	216.85	8,193.4	-871.2	-652.8	1,088.7	0.00	0.00	0.00
8,400.0	11.38	216.85	8,291.4	-887.0	-664.7	1,108.4	0.00	0.00	0.00
8,500.0	11.38	216.85	8,389.4	-902.8	-676.5	1,128.2	0.00	0.00	0.00
8,600.0	11.38	216.85	8,487.5	-918.6	-688.3	1,147.9	0.00	0.00	0.00
8,700.0	11.38	216.85	8,585.5	-934.4	-700.2	1,167.6	0.00	0.00	0.00
8,800.0	11.38	216.85	8,683.5	-950.2	-712.0	1,187.4	0.00	0.00	0.00
8,900.0	11.38	216.85	8,781.6	-966.0	-723.9	1,207.1	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well UTE Tribal 5-32-14-20
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Project:</b>	Uintah County, UT	<b>MD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Site:</b>	Section 32-T14S-R20E	<b>North Reference:</b>	True
<b>Well:</b>	UTE Tribal 5-32-14-20	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Well		
<b>Design:</b>	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,000.0	11.38	216.85	8,879.6	-981.8	-735.7	1,226.8	0.00	0.00	0.00	
9,100.0	11.38	216.85	8,977.6	-997.6	-747.5	1,246.6	0.00	0.00	0.00	
9,200.0	11.38	216.85	9,075.7	-1,013.4	-759.4	1,266.3	0.00	0.00	0.00	
9,300.0	11.38	216.85	9,173.7	-1,029.2	-771.2	1,286.0	0.00	0.00	0.00	
9,400.0	11.38	216.85	9,271.7	-1,045.0	-783.0	1,305.8	0.00	0.00	0.00	
9,500.0	11.38	216.85	9,369.8	-1,060.7	-794.9	1,325.5	0.00	0.00	0.00	
9,600.0	11.38	216.85	9,467.8	-1,076.5	-806.7	1,345.2	0.00	0.00	0.00	
9,700.0	11.38	216.85	9,565.8	-1,092.3	-818.5	1,365.0	0.00	0.00	0.00	
9,800.0	11.38	216.85	9,663.9	-1,108.1	-830.4	1,384.7	0.00	0.00	0.00	
9,814.6	11.38	216.85	9,678.2	-1,110.4	-832.1	1,387.6	0.00	0.00	0.00	
<b>Start Drop 1.5/100'</b>										
9,900.0	10.10	216.85	9,762.1	-1,123.2	-841.6	1,403.5	1.50	-1.50	0.00	
10,000.0	8.60	216.85	9,860.8	-1,136.2	-851.4	1,419.8	1.50	-1.50	0.00	
10,100.0	7.10	216.85	9,959.8	-1,147.1	-859.6	1,433.4	1.50	-1.50	0.00	
10,200.0	5.60	216.85	10,059.2	-1,156.0	-866.2	1,444.5	1.50	-1.50	0.00	
10,300.0	4.10	216.85	10,158.8	-1,162.7	-871.3	1,452.9	1.50	-1.50	0.00	
10,400.0	2.60	216.85	10,258.7	-1,167.4	-874.8	1,458.8	1.50	-1.50	0.00	
10,500.0	1.10	216.85	10,358.6	-1,170.0	-876.7	1,462.0	1.50	-1.50	0.00	
10,573.4	0.00	0.00	10,432.0	-1,170.5	-877.1	1,462.7	1.50	-1.50	0.00	
<b>EOD Hold 0 Deg - Dakota Silt - 5-32-14-20</b>										
10,600.0	0.00	0.00	10,458.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
10,668.4	0.00	0.00	10,527.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
<b>Dakota</b>										
10,700.0	0.00	0.00	10,558.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
10,785.4	0.00	0.00	10,644.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
<b>Cedar Mtn</b>										
10,800.0	0.00	0.00	10,658.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
10,900.0	0.00	0.00	10,758.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
10,901.4	0.00	0.00	10,760.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
<b>Buckhorn</b>										
10,968.4	0.00	0.00	10,827.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
<b>Morrison</b>										
11,000.0	0.00	0.00	10,858.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,100.0	0.00	0.00	10,958.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,200.0	0.00	0.00	11,058.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,300.0	0.00	0.00	11,158.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,400.0	0.00	0.00	11,258.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,500.0	0.00	0.00	11,358.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,535.4	0.00	0.00	11,394.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
<b>Curtis</b>										
11,600.0	0.00	0.00	11,458.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,628.0	0.00	0.00	11,486.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
<b>7"</b>										
11,678.4	0.00	0.00	11,537.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
<b>Entrada</b>										
11,700.0	0.00	0.00	11,558.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,800.0	0.00	0.00	11,658.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,891.4	0.00	0.00	11,750.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
<b>Carmel</b>										
11,900.0	0.00	0.00	11,758.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
11,948.4	0.00	0.00	11,807.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
<b>Kayenta</b>										

# Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well UTE Tribal 5-32-14-20
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Project:</b>	Uintah County, UT	<b>MD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Site:</b>	Section 32-T14S-R20E	<b>North Reference:</b>	True
<b>Well:</b>	UTE Tribal 5-32-14-20	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Well		
<b>Design:</b>	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
12,000.0	0.00	0.00	11,858.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
12,088.4	0.00	0.00	11,947.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
Wingate										
12,100.0	0.00	0.00	11,958.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
12,200.0	0.00	0.00	12,058.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
12,300.0	0.00	0.00	12,158.6	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	
12,338.4	0.00	0.00	12,197.0	-1,170.5	-877.1	1,462.7	0.00	0.00	0.00	

Targets										
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
5-32-14-20	- plan hits target	0.00	0.00	10,432.0	-1,170.5	-877.1	7,012,649.39	2,145,306.75	39° 33' 27.450 N	109° 42' 32.730 W
	- Circle (radius 50.0)									

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")		
500.0	500.0	13 3/8"	13-3/8	17-1/2		
4,634.5	4,600.0	9 5/8"	9-5/8	12-1/4		
11,628.0	11,486.6	7"	7	7-7/8		
12,338.4	12,197.0	4 1/2"	4-1/2	6		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
10,573.4	10,432.0	Dakota Silt		0.00		
10,668.4	10,527.0	Dakota		0.00		
10,901.4	10,760.0	Buckhorn		0.00		
11,891.4	11,750.0	Carmel		0.00		
11,948.4	11,807.0	Kayenta		0.00		
6,676.7	6,602.0	Mancos		0.00		
11,535.4	11,394.0	Curtis		0.00		
6,396.2	6,327.0	Castlegate		0.00		
4,488.7	4,457.0	Mesaverde		0.00		
11,678.4	11,537.0	Entrada		0.00		
12,088.4	11,947.0	Wingate		0.00		
10,968.4	10,827.0	Morrison		0.00		
2,357.0	2,357.0	Wasatch		0.00		
28.0	28.0	Green Rvr		0.00		
10,785.4	10,644.0	Cedar Mtn		0.00		

## Planning Report

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well UTE Tribal 5-32-14-20
<b>Company:</b>	Whiting Petroleum Corporation	<b>TVD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Project:</b>	Uintah County, UT	<b>MD Reference:</b>	WELL @ 7527.0ft (Bronco Rig)
<b>Site:</b>	Section 32-T14S-R20E	<b>North Reference:</b>	True
<b>Well:</b>	UTE Tribal 5-32-14-20	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Well		
<b>Design:</b>	Plan #1		

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,500.0	2,500.0	0.0	0.0	KOP 2/100'
3,069.1	3,065.4	-45.1	-33.8	EOB Hold 11.38 Deg
9,814.6	9,678.2	-1,110.4	-832.1	Start Drop 1.5/100'
10,573.4	10,432.0	-1,170.5	-877.1	EOD Hold 0 Deg

Found Set Marked Stone, with 5 notches on NE edge & 1 notch on SE edge of stone.

**T14S, R20E, S.L.B.&M.**

S89°50'W - 80.00 (G.L.O.)

S89°58'23"W - 2637.06' (Meas.)

S89°49'06"W - 2625.67' (Meas.)

Found Set Marked Stone, with 1/4 marked on North side of stone.

Found Set Stone, pile of stones.

2619.75' (Measured)  
N00°23'57"E (Basis of Bearings)

N0°03'W (G.L.O.)

N0°03'W (G.L.O.)

**WELL LOCATION:  
UTE TRIBAL 5-32-14-20**

ELEV. UNGRADED GROUND = 7498.8'

**32**

S89°54'W (G.L.O.)

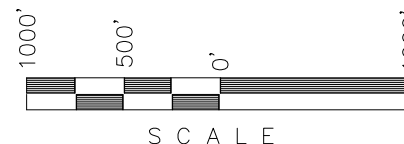
▲ = SECTION CORNERS LOCATED

UTE TRIBAL 5-32-14-20  
(Bottom Hole) NAD 83 Autonomous  
LATITUDE = 39° 33' 27.45"  
LONGITUDE = 109° 42' 32.73"

UTE TRIBAL 5-32-14-20  
(Surface Position) NAD 83 Autonomous  
LATITUDE = 39° 33' 39.02"  
LONGITUDE = 109° 42' 21.53"

**WHITING OIL AND GAS CORPORATION**

WELL LOCATION, UTE TRIBAL 5-32-14-20,  
LOCATED AS SHOWN IN THE SW 1/4 NW 1/4  
OF SECTION 32, T14S, R20E, S.L.B.&M.  
UINTAH COUNTY, UTAH.



**NOTES:**

1. Well footages are measured at right angles to the Section Lines.
2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
3. The Bottom of hole bears S36°50'10"W 1463.53' from the Surface Position.
4. Bearings are based on Global Positioning Satellite observations.
5. BASIS OF ELEVATION IS BENCH MARK 60 WF 1952 LOCATED IN THE SW 1/4 OF SECTION 35, T14S, R20E, S.L.B.&M. THE ELEVATION OF THIS BENCH MARK IS SHOWN ON THE FLAT ROCK MESA 7.5 MIN. QUADRANGLE AS BEING 7363'.

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS  
PREPARED FROM FIELD NOTES OF ANGULAR SURVEYS  
MADE BY ME OR UNDER MY SUPERVISION AND THAT  
THE SAME ARE TRUE AND CORRECT TO THE BEST OF  
MY KNOWLEDGE AND BELIEF.

*Kelly R. Kay*  
REGISTERED LAND SURVEYOR  
REGISTRATION NO. 362251  
STATE OF UTAH

**TIMBERLINE**

(435) 789-1365

**ENGINEERING & LAND SURVEYING, INC.**

209 NORTH 300 WEST - VERNAL, UTAH 84078

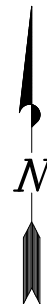
DATE SURVEYED: 09-07-07	SURVEYED BY: B.J.S.	<b>SHEET 2 OF 11</b>
DATE DRAWN: 09-25-07	DRAWN BY: M.W.W.	
SCALE: 1" = 1000'	Date Last Revised: 08-03-09	

# WHITING OIL AND GAS CORPORATION

## WELL PAD INTERFERENCE PLAT UTE TRIBAL 5-32-14-20

BASIS OF ELEVATION IS BENCH MARK 60 WF 1952 LOCATED IN THE SW 1/4 OF SECTION 35, T14S, R20E, S.L.B.&M. THE ELEVATION OF THIS BENCH MARK IS SHOWN ON THE FLAT ROCK MESA 7.5 MIN. QUADRANGLE AS BEING 7363'.

BASIS OF BEARINGS IS THE WEST LINE OF THE NW 1/4 OF SECTION 32, T14S, R20E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°23'57"E.



Existing Road

### SURFACE POSITION FOOTAGES:

UTE TRIBAL 5-32-14-20  
809' FNL & 1529' FWL

### BOTTOM HOLE FOOTAGES

UTE TRIBAL 5-32-14-20  
1980' FNL & 660' FWL

PROPOSED GRADED GROUND  
ELEVATION OF PAD IS 7497.2'.

N88°41'21"W

● UTE TRIBAL 5-32-14-20

S36°50'10"W - 1463.53'  
(To Bottom Hole)

### RELATIVE COORDINATES

From Surface Position to Bottom Hole

WELL	NORTH	EAST
5-32-14-20	-1,171'	-877'

### LATITUDE & LONGITUDE

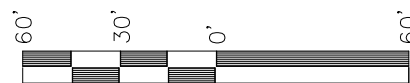
Surface Position - (NAD 83) Autonomous

WELL	N. LATITUDE	W. LONGITUDE
5-32-14-20	39°33'39.02"	109°42'21.53"

### LATITUDE & LONGITUDE

Bottom Hole - (NAD 83) Autonomous

WELL	N. LATITUDE	W. LONGITUDE
5-32-14-20	39°33'27.45"	109°42'32.73"



S C A L E

Section 32, T14S, R20E, S.L.B.&M.

Qtr/Qtr Location: NE NW (Surface)

Date Surveyed:  
09-07-07

Date Drawn:  
08-04-09

Date Last Revision:

**Timberline**

(435) 789-1365

SHEET

Surveyed By: B.J.S.

Drawn By: M.W.W.

Scale: 1" = 60'


Engineering & Land Surveying, Inc.

209 NORTH 300 WEST VERNAL, UTAH 84078

3  
OF 11

RECEIVED October 29, 2009



<b>RECOMMENDED BY</b>				
Central Rockies				
<b>REVISIONS:</b>		 <b>WHITING PETROLEUM CORP.</b> <b>1700 BROADWAY Suite 2300</b> <b>Denver, CO 80290</b> <b>303-837-1661</b>		
1	Updated TD to Wingate			DATE: 10/02/09
2				DATE:

WELL INFORMATION			
<b>API:</b>	43-047-39741-00	<b>AFE:</b>	
<b>WELL NAME:</b>	UTE TRIBAL 5-32-14-20	<b>ACQUISITION:</b>	CEA
<b>PROSPECT:</b>	FLAT ROCK	<b>RESERVE CATEGORY:</b>	
<b>SURFACE LOCATION:</b>	NENW 32 14S 20E	<b>SURFACE LONG, LAT:</b>	-109.7052200, 39.5609000
<b>SURFACE FOOTAGE:</b>	809 FNL 1529 FWL	<b>BOTTOM HOLE LONG, LAT:</b>	-109.7083781, 39.5577005
<b>BOTTOM HOLE LOCATION:</b>	SWNW 32 14S 20E	<b>SURVEYED ELEVATION (GR):</b>	7,499
<b>BOTTOM HOLE FOOTAGE:</b>	1980 FNL 660 FWL	<b>HEIGHT TO KB:</b>	28
<b>COUNTY:</b>	Uintah	<b>ACTUAL ELEV. (KB):</b>	7,527
<b>STATE:</b>	UT	<b>TVD (if horizontal well):</b>	ft.
<b>LOCATION MAY BE MOVED:</b>		<b>TMD (if horizontal well):</b>	ft.
<b>PROPOSED TOTAL DEPTH (TVD):</b>	12,197	<b>FORMATION AT TD:</b>	Wingate

FORMATION	TOP - TVD	TOP - TVDSS	INTVL	CORE	LITHOLOGY	GEOLOGIC HAZARDS
Green River Fm @ Surface	28	7,499	2,329		Oil Shale	oil and/or gas anticipated
Wasatch Fm	2,357	5,170	2,100		SS-SH	oil and/or gas anticipated
Mesaverde	4,457	3,070	1,870		SS-SH	oil and/or gas anticipated
Castlegate SS	6,327	1,200	275		Sandstone	gas
Mancos	6,602	925	505		SS-SH	gas
Mancos B	7,107	420	3,325		Sandstone	gas
Dakota Silt	10,432	(2,905)	95		Sandstone	gas
Dakota	10,527	(3,000)	117		Sandstone	gas
Cedar Mtn Fm	10,644	(3,117)	116		Sandstone	gas
Buckhorn Congl	10,760	(3,233)	67		SS-SH	gas
Morrison Fm	10,827	(3,300)	567		SS-SH	
Curtis Fm	11,394	(3,867)	143		SS-SH	
Entrada SS	11,537	(4,010)	213		Sandstone	gas
Carmel	11,750	(4,223)	57		LS-SH	
Kayenta	11,807	(4,280)	140		Sandstone	gas
Wingate	11,947	(4,420)	250		Sandstone	gas
TD	12,197	(4,670)				

WIRELINE LOGS		CORING & CUTTINGS	
<b>LOGGING COMPANY:</b>		<b>CORING TOOL CO:</b>	
<b>TRIPLE COMBO</b>		<b>CORE ANALYSIS CO:</b>	
<b>FROM:</b> YES TD to surf		<b>30' SAMPLES:</b> Surf Csg <b>TO:</b> TD <b>10' SAMPLES:</b> <b>TO:</b>	
		<b>SHIP CUTTINGS TO:</b> Larry Rasmussen	
		Whiting Petroleum Corp.	
		1700 Broadway, Ste 2300	
		Denver, CO 80290	
WELLSITE GEOLOGIST		MUD LOGGER	
<b>NAME:</b>		<b>NAME:</b>	
<b>PHONE</b>		<b>PHONE</b>	
<b>STARTING DEPTH:</b>		<b>STARTING DEPTH:</b>	Surface Csg
NOTIFICATIONS		OFFICE	MOBILE
1st	Larry Rasmussen - Geologist	303-390-4093	720-272-5978
2nd	John Forster - Regional Geol Manager	303-390-4117	303-324-7690
3rd	Dana Greathouse - Regional Drilling Mgr	303-390-4247	303-808-3687
4th	Tom Smith - Sr. Operations Engineer	303-390-4124	720-283-3272

**SPECIAL INSTRUCTIONS:** Anticipate continuous gas from Wasatch through the Entrada, possibly Wingate.  
 Expect underpressured reservoirs, 0.35 psi/ft, Bottom Hole Temperature of ~230F

**HALLIBURTON**

Whiting Oil & Gas Corp Ebusiness  
Do Not Mail - 1700 Broadway Ste2300  
Denver, Colorado 80290

Ute Tribal 5-32-14-20  
Flat Rock Field  
Uintah County, Utah  
United States of America  
S:32 T:14S R:20E  
API/UWI 43-047-39741

## Multiple String Cement Recommendation

Prepared for: Mr. Dana Greathouse

October 22, 2009  
Version: 2

Submitted by:  
Matt Collins  
Halliburton  
1125 17th Street #1900  
Denver, Colorado 80202  
303.501.9557

**HALLIBURTON**

***Halliburton appreciates the opportunity to present  
this proposal and looks forward to being of service to you.***

## **Foreword**

---

Enclosed is our recommended procedure for cementing the casing strings in the referenced well. The information in this proposal includes well data, calculations, materials requirements, and cost estimates. This proposal is based on information from our field personnel and previous cementing services in the area.

Halliburton Energy Services recognizes the importance of meeting society's needs for health, safety, and protection of the environment. It is our intention to proactively work with employees, customers, the public, governments, and others to use natural resources in an environmentally sound manner while protecting the health, safety, and environmental processes while supplying high quality products and services to our customers.

We appreciate the opportunity to present this proposal for your consideration and we look forward to being of service to you. Our Services for your well will be coordinated through the Service Center listed below. If you require any additional information or additional designs, please feel free to contact myself or our field representative listed below.

Prepared and Submitted by:

\_\_\_\_\_  
Matt Collins  
Account Representative

SERVICE CENTER:	Vernal
SERVICE COORDINATOR:	Weston Spencer / Cody Slaugh
PSL DISTRICT MANAGER:	Christopher Jerez
PDC:	Jason Bergin / Corey Reynolds
CMT ENGINEERS:	Chris Cicirello / Sean Bullington
	Ted Groff
PHONE NUMBER:	435.789.2550

## Cementing Best Practices

1. Cement quality and weight: You must choose a cement slurry that is designed to solve the problems specific to each casing string.
2. Waiting time: You must hold the cement slurry in place and under pressure until it reaches its' initial set without disturbing it. A cement slurry is a time-dependent liquid and must be allowed to undergo a hydration reaction to produce a competent cement sheath. A fresh cement slurry can be worked (thickening or pump time) as long as it is in a plastic state and before going through its' transition phase. If the cement slurry is not allowed to transition without being disturbed, it may be subjected to changes in density, dilution, settling, water separation, and gas cutting that may lead to a lack of zonal isolation and possible bridging in the annulus.
3. Pipe movement: Pipe movement may be one of the single most influential factors in mud removal. Reciprocation and/or rotation mechanically breaks up gelled mud and changes the flow patterns in the annulus to improve displacement efficiency.
4. Mud properties (for cementing):

### Rheology:

Plastic Viscosity (PV) < 15 centipoise (cp)

Yield Point (YP) < 10 lb/100 ft<sup>2</sup>

These properties should be reviewed with the Mud Engineer, Drilling Engineer, and Company Representative(s) to ensure no hole problems are created.

### Gel Strength:

The 10-second/10-minute gel strength values should be such that the 10-second and 10-minute readings are close together or flat (i.e., 5/6). The 30-minute reading should be less than 20 lb/100 ft<sup>2</sup>. Sufficient shear stress may not be achieved on a primary cement job to remove mud left in the hole if the mud were to develop more than 25 lb/100 ft<sup>2</sup> of gel strength.

### Fluid Loss:

Decreasing the filtrate loss into a permeable zone enhances the creation of a thin, competent filter cake. A thin, competent filter cake created by a low fluid loss mud system is desirable over a thick, partially gelled filter cake. A mud system created with a low fluid loss will be more easily displaced. The fluid loss value should be < 15 cc's (ideal would be 5 cc's).

5. Circulation: Prior to cementing circulate full hole volume twice, or until well conditioned mud is being returned to the surface. There should be no cutting in the mud returns. An annular velocity of 260 feet per minute is optimum (SPE/IADC 18617), if possible.
6. Flow rate: Turbulent flow is the most desirable flow regime for mud removal. If turbulence cannot be achieved pump at as high a flow rate that can practically and safely be used to create the maximum flow energy. The highest mud removal is achieved when the maximum flow energy is obtained.
7. Pipe Centralization: This Cement will take the path of least resistance, therefore proper centralization is important to help prevent the casing from contacting the borehole wall. A minimum standoff of 70% should be targeted for optimum displacement efficiency.
8. Rat hole: A weighted viscous pill placed in the rat hole prior to cementing will minimize the risk of higher density cement mixing with lower density mud when the well is static.

9. Top and Bottom plugs: A top and bottom plug are recommended to be run on all primary casing jobs. The bottom plug should be run after the spacer and ahead of the first cement slurry.

10. Spacers and flushes: Spacers and/or flushes should be used to prevent contamination between the cement slurry and the drilling fluid. They are also used to clean the wellbore and aid with bonding. To determine the volume, either a minimum of 10 minutes contact time or 1000 ft. of annular fill, whichever is greater, is recommended.

**Job Information****13 3/8" Casing**

---

Well Name: Ute Tribal

Well #: 5-32-14-20

20" Conductor	0 - 60 ft (MD)
Outer Diameter	20.000 in
Inner Diameter	19.124 in
Linear Weight	94 lbm/ft
Casing Grade	H-40

17 1/2" Open Hole	60 - 500 ft (MD)
Inner Diameter	17.500 in
Job Excess	100 %

13 3/8" Surface Casing	0 - 500 ft (MD)
Outer Diameter	13.375 in
Inner Diameter	12.715 in
Linear Weight	48 lbm/ft
Casing Grade	H-40

**Calculations****13 3/8" Casing**

---

Spacer:

$$\begin{aligned}\text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl}\end{aligned}$$

Cement : (500.00 ft fill)

$$\begin{aligned}60.00 \text{ ft} * 1.019 \text{ ft}^3/\text{ft} * 0 \% &= 61.14 \text{ ft}^3 \\ 440.00 \text{ ft} * 0.6946 \text{ ft}^3/\text{ft} * 100 \% &= 611.28 \text{ ft}^3 \\ \text{Total Lead Cement} &= 672.42 \text{ ft}^3 \\ &= 119.76 \text{ bbl} \\ \text{Sacks of Cement} &= 393 \text{ sks}\end{aligned}$$

Shoe Joint Volume: (40.00 ft fill)

$$\begin{aligned}40.00 \text{ ft} * 0.8818 \text{ ft}^3/\text{ft} &= 35.27 \text{ ft}^3 \\ &= 6.28 \text{ bbl} \\ \text{Tail plus shoe joint} &= 707.69 \text{ ft}^3 \\ &= 126.05 \text{ bbl}\end{aligned}$$

Total Pipe Capacity:

$$\begin{aligned}500.00 \text{ ft} * 0.8818 \text{ ft}^3/\text{ft} &= 440.89 \text{ ft}^3 \\ &= 78.53 \text{ bbl}\end{aligned}$$

Displacement Volume to Shoe Joint:

$$\begin{aligned}\text{Capacity of Pipe - Shoe Joint} &= 78.53 \text{ bbl} - 6.28 \text{ bbl} \\ &= 72.24 \text{ bbl}\end{aligned}$$

**Job Recommendation****13 3/8" Casing**

---

## Fluid Instructions

Fluid 1: Water Spacer

Gel Water

Fluid Density: 8.34 lbm/gal

Fluid Volume: 20 bbl

## Fluid 2: Lead Cement

Rockies LT

0.25 lbm/sk Kwik Seal (Lost Circulation Additive)

0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Fluid Weight 13.50 lbm/gal

Slurry Yield: 1.80 ft<sup>3</sup>/sk

Total Mixing Fluid: 9.33 Gal/sk

Top of Fluid: 0 ft

Calculated Fill: 500 ft

Volume: 126.05 bbl

Calculated Sacks: 393.16 sks

Proposed Sacks: 395 sks

## Fluid 3: Water Spacer

Water Displacement

Fluid Density: 8.34 lbm/gal

Fluid Volume: 72.24 bbl

## Fluid 4: Top Out Cement

Premium Plus - Type III

94 lbm/sk Premium Plus - Type III (Cement-non-api)

2 % Calcium Chloride (Accelerator)

Fluid Weight 14.50 lbm/gal

Slurry Yield: 1.41 ft<sup>3</sup>/sk

Total Mixing Fluid: 6.86 Gal/sk

Proposed Sacks: 200 sks



**Detailed Pumping Schedule**

Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Estimated Avg Rate bbl/min	Downhole Volume
1	Spacer	Gel Water	8.3		20 bbl
2	Cement	Primary Cement	13.5		395 sks
3	Spacer	Water Displacement	8.3		72.24 bbl
4	Cement	Top Out Cement	14.5		200 sks

**Job Information****9 5/8" Casing**

---

Well Name: Ute Tribal

Well #: 5-32-14-20

13 3/8" Surface Casing	0 - 500 ft (MD)
Outer Diameter	13.375 in
Inner Diameter	12.715 in
Linear Weight	48 lbm/ft
Casing Grade	H-40

12 1/4" Open Hole	500 - 4616 ft (MD)
Inner Diameter	12.250 in
Job Excess	35 %

9 5/8" Intermediate Casing	0 - 4616 ft (MD)
Outer Diameter	9.625 in
Inner Diameter	8.921 in
Linear Weight	36 lbm/ft
Casing Grade	J-55

BHCT	100 degF
------	----------

**Calculations****9 5/8" Casing**

Spacer:

$$\begin{aligned}\text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl}\end{aligned}$$

Spacer:

$$\begin{aligned}2.00 \text{ ft} * 0.3765 \text{ ft}^3/\text{ft} * 0 \% &= 0.75 \text{ ft}^3 \\ \text{Total Spacer} &= 224.58 \text{ ft}^3 \\ &= 40.00 \text{ bbl}\end{aligned}$$

Spacer:

$$\begin{aligned}298.00 \text{ ft} * 0.3765 \text{ ft}^3/\text{ft} * 0 \% &= 112.20 \text{ ft}^3 \\ \text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl}\end{aligned}$$

Cement : (3816.00 ft fill)

$$\begin{aligned}200.00 \text{ ft} * 0.3765 \text{ ft}^3/\text{ft} * 0 \% &= 75.30 \text{ ft}^3 \\ 3616.00 \text{ ft} * 0.3132 \text{ ft}^3/\text{ft} * 35 \% &= 1528.86 \text{ ft}^3 \\ \text{Total Lead Cement} &= 1604.16 \text{ ft}^3 \\ &= 285.71 \text{ bbl} \\ \text{Sacks of Cement} &= 421 \text{ sks}\end{aligned}$$

Cement : (500.00 ft fill)

$$\begin{aligned}500.00 \text{ ft} * 0.3132 \text{ ft}^3/\text{ft} * 35 \% &= 211.40 \text{ ft}^3 \\ \text{Tail Cement} &= 211.40 \text{ ft}^3 \\ &= 37.65 \text{ bbl}\end{aligned}$$

Shoe Joint Volume: (40.00 ft fill)

$$\begin{aligned}40.00 \text{ ft} * 0.4341 \text{ ft}^3/\text{ft} &= 17.36 \text{ ft}^3 \\ &= 3.09 \text{ bbl} \\ \text{Tail plus shoe joint} &= 228.76 \text{ ft}^3 \\ &= 40.74 \text{ bbl} \\ \text{Total Tail} &= 199 \text{ sks}\end{aligned}$$

Total Pipe Capacity:

$$\begin{aligned}4616.00 \text{ ft} * 0.4341 \text{ ft}^3/\text{ft} &= 2003.64 \text{ ft}^3 \\ &= 356.86 \text{ bbl}\end{aligned}$$

Displacement Volume to Shoe Joint:

$$\begin{aligned}\text{Capacity of Pipe - Shoe Joint} &= 356.86 \text{ bbl} - 3.09 \text{ bbl} \\ &= 353.77 \text{ bbl}\end{aligned}$$

**Job Recommendation****9 5/8" Casing**

## Fluid Instructions

## Fluid 1: Water Spacer

Fresh Water

Fluid Density: 8.34 lbm/gal

Fluid Volume: 20 bbl

## Fluid 2: Reactive Spacer

SUPER FLUSH 101

Fluid Density: 10 lbm/gal

Fluid Volume: 40 bbl

## Fluid 3: Water Spacer

Fresh Water

Fluid Density: 8.34 lbm/gal

Fluid Volume: 20 bbl

## Fluid 4: Lead Cement

ECONOCEM (TM) SYSTEM

0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Fluid Weight 11 lbm/gal

Slurry Yield: 3.81 ft<sup>3</sup>/sk

Total Mixing Fluid: 23.01 Gal/sk

Top of Fluid: 300 ft

Calculated Fill: 3816 ft

Volume: 285.71 bbl

Calculated Sacks: 420.60 sks

Proposed Sacks: 425 sks

## Fluid 5: Tail Cement

Premium Cement

94 lbm/sk Premium Cement (Cement)

0.3 % Halad(R)-344 (Low Fluid Loss Control)

0.25 % CFR-3 (Dispersant)

0.35 % HR-5 (Retarder)

0.2 % Super CBL (Gas Migration Control)

Fluid Weight 15.80 lbm/gal

Slurry Yield: 1.15 ft<sup>3</sup>/sk

Total Mixing Fluid: 4.94 Gal/sk

Top of Fluid: 4116 ft

Calculated Fill: 500 ft

Volume: 40.74 bbl

Calculated Sacks: 198.58 sks

Proposed Sacks: 200 sks

## Fluid 6: Mud

Mud Displacement

Fluid Density: 10 lbm/gal

Fluid Volume: 353.77 bbl

**Detailed Pumping Schedule**

Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Estimated Avg Rate bbl/min	Downhole Volume
1	Spacer	Fresh Water	8.3		20 bbl
2	Spacer	SUPER FLUSH 101	10.0		40 bbl
3	Spacer	Fresh Water	8.3		20 bbl
4	Cement	EconoCem V3	11.0		425 sks
5	Cement	Premium Cement	15.8		200 sks
6	Mud	Mud Displacement	10.0		353.77 bbl

**Job Information****7" Casing**

---

Well Name: Ute Tribal

Well #: 5-32-14-20

9 5/8" Intermediate Casing  
Outer Diameter  
Inner Diameter  
Linear Weight  
Casing Grade

0 - 4616 ft (MD)  
9.625 in  
8.921 in  
36 lbm/ft  
J-55

8 3/4" Open Hole  
Inner Diameter  
Job Excess

4616 - 11628 ft (MD)  
8.750 in  
25 %

7" Production Casing  
Outer Diameter  
Inner Diameter  
Linear Weight

0 - 11628 ft (MD)  
7.000 in  
6.184 in  
29 lbm/ft

Mud Weight  
BHCT

9 lbm/gal  
180 degF

**Calculations****7" Casing**

---

Spacer:

$$\begin{aligned} 337.00 \text{ ft} * 0.1668 \text{ ft}^3/\text{ft} * 0 \% &= 56.22 \text{ ft}^3 \\ \text{Total Spacer} &= 56.15 \text{ ft}^3 \\ &= 10.00 \text{ bbl} \end{aligned}$$

Spacer:

$$\begin{aligned} 673.00 \text{ ft} * 0.1668 \text{ ft}^3/\text{ft} * 0 \% &= 112.26 \text{ ft}^3 \\ \text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl} \end{aligned}$$

Spacer:

$$\begin{aligned} 337.00 \text{ ft} * 0.1668 \text{ ft}^3/\text{ft} * 0 \% &= 56.22 \text{ ft}^3 \\ \text{Total Spacer} &= 56.15 \text{ ft}^3 \\ &= 10.00 \text{ bbl} \end{aligned}$$

Cement : (6057.00 ft fill)

$$\begin{aligned} 200.00 \text{ ft} * 0.1668 \text{ ft}^3/\text{ft} * 0 \% &= 33.36 \text{ ft}^3 \\ 5857.00 \text{ ft} * 0.1503 \text{ ft}^3/\text{ft} * 25 \% &= 1100.60 \text{ ft}^3 \\ \text{Total Foamed Lead Cement} &= 1133.97 \text{ ft}^3 \\ &= 201.97 \text{ bbl} \\ \text{Sacks of Cement} &= 466 \text{ sks} \end{aligned}$$

Cement : (1155.00 ft fill)

$$\begin{aligned} 1155.00 \text{ ft} * 0.1503 \text{ ft}^3/\text{ft} * 25 \% &= 217.04 \text{ ft}^3 \\ \text{Tail Cement} &= 217.04 \text{ ft}^3 \\ &= 38.66 \text{ bbl} \end{aligned}$$

Shoe Joint Volume: (40.00 ft fill)

$$\begin{aligned} 40.00 \text{ ft} * 0.2086 \text{ ft}^3/\text{ft} &= 8.34 \text{ ft}^3 \\ &= 1.49 \text{ bbl} \\ \text{Tail plus shoe joint} &= 225.38 \text{ ft}^3 \\ &= 40.14 \text{ bbl} \\ \text{Total Tail} &= 133 \text{ sks} \end{aligned}$$

Total Pipe Capacity:

$$\begin{aligned} 11628.00 \text{ ft} * 0.2086 \text{ ft}^3/\text{ft} &= 2425.33 \text{ ft}^3 \\ &= 431.97 \text{ bbl} \end{aligned}$$

Displacement Volume to Shoe Joint:

$$\begin{aligned} \text{Capacity of Pipe - Shoe Joint} &= 431.97 \text{ bbl} - 1.49 \text{ bbl} \\ &= 430.48 \text{ bbl} \end{aligned}$$

**Job Recommendation****7" Casing**

## Fluid Instructions

Fluid 1: Water Spacer

Fresh Water

Fluid Density: 8.34 lbm/gal

Fluid Volume: 10 bbl

Fluid 2: Reactive Spacer

SUPER FLUSH

Fluid Density: 10 lbm/gal

Fluid Volume: 20 bbl

Fluid 3: Water Spacer

Fresh Water

Fluid Density: 8.34 lbm/gal

Fluid Volume: 10 bbl

Fluid 4: Foamed Lead Cement

ELASTISEAL (TM) SYSTEM

1.5 % FDP-C760-04 (Foamer)

Fluid Weight 13.50 lbm/gal

Slurry Yield: 1.70 ft<sup>3</sup>/sk

Total Mixing Fluid: 8.11 Gal/sk

Top of Fluid: 4416 ft

Calculated Fill: 6057 ft

Volume: 201.97 bbl

Calculated Sacks: 466.09 sks

Proposed Sacks: 470 sks

Fluid 5: Tail Cement

ELASTICEM (TM) SYSTEM

Fluid Weight 13.50 lbm/gal

Slurry Yield: 1.70 ft<sup>3</sup>/sk

Total Mixing Fluid: 8.09 Gal/sk

Top of Fluid: 10473 ft

Calculated Fill: 1155 ft

Volume: 40.14 bbl

Calculated Sacks: 132.73 sks

Proposed Sacks: 135 sks

Fluid 6: Water Spacer

Displacement

Fluid Density: 8.34 lbm/gal

Fluid Volume: 430.48 bbl

Fluid 7: Top Out Cement

Premium Cement

94 lbm/sk Premium Cement (Cement)

12 % Cal-Seal 60 (Accelerator)

3 % Calcium Chloride (Accelerator)

Fluid Weight 14.60 lbm/gal

Slurry Yield: 1.55 ft<sup>3</sup>/sk

Total Mixing Fluid: 7.35 Gal/sk

Proposed Sacks: 200 sks



**Detailed Pumping Schedule**

Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Estimated Avg Rate bbl/min	Downhole Volume
1	Spacer	Fresh Water	8.3		10 bbl
2	Spacer	SUPER FLUSH	10.0		20 bbl
3	Spacer	Fresh Water	8.3		10 bbl
4	Cement	ELASTISEAL SYSTEM	13.5		470 sks
5	Cement	ELASTISEAL SYSTEM	13.5		135 sks
6	Spacer	Displacement	8.3		430.48 bbl
7	Cement	Cap Cement	14.6		200 sks

**Foam Output Parameter Summary:**

Fluid #	Fluid Name	Unfoamed Liquid Volume	Beginning Density lbm/gal	Ending Density lbm/gal	Beginning Rate scf/bbl	Ending Rate scf/bbl
<b>Stage 1</b>						
4	ELASTISEAL SYSTEM	140.87bbl	10.0	10.0	279.1	666.3

**Foam Design Specifications:**

Foam Calculation Method: Constant Density  
Backpressure: 75 psig  
Bottom Hole Circulating Temp: 180 degF  
Mud Outlet Temperature: 120 degF

Calculated Gas = 67212.7 scf  
Additional Gas = 40000 scf  
Total Gas = 107212.7 scf

## Conditions

---

### NOTE

The cost in this analysis is good for the materials and/or services outlined within and shall be valid for 30 days from the date of this proposal. In order to meet your needs under this proposal with a high quality of service and responsive timing, Halliburton will be allocating limited resources and committing valuable equipment and materials to your area of operations. Accordingly, the discounts reflected in this proposal are available only for materials and services awarded on a first-call basis. Alternate pricing may apply in the event that Halliburton is awarded work on any basis other than as a first-call provider.

The unit prices stated in the proposal are based on our current published prices. The projected equipment, personnel, and material needs are only estimates based on information about the work presently available to us. At the time the work is actually performed, conditions then existing may require an increase or decrease in the equipment, personnel, and/or material needs. Charges will be based upon unit prices in effect at the time the work is performed and the amount of equipment, personnel, and/or material actually utilized in the work. Taxes, if any, are not included. Applicable taxes, if any, will be added to the actual invoice.

It is understood and agreed between the parties that with the exception of the subject discounts, all services performed and equipment and materials sold are provided subject to Halliburton's General Terms and Conditions contained in our current price list, (which include LIMITATION OF LIABILITY and WARRANTY provisions), and pursuant to the applicable Halliburton Work Order Contract (whether or not executed by you), unless a Master Service and/or Sales Contract applicable to the services, equipment, or materials supplied exists between your company and Halliburton, in which case the negotiated Master Contract shall govern the relationship between the parties. A copy of the latest version of our General Terms and Conditions is available from your Halliburton representative or at:

[http://www.halliburton.com/hes/general\\_terms\\_conditions.pdf](http://www.halliburton.com/hes/general_terms_conditions.pdf) for your convenient review, and we would appreciate receiving any questions you may have about them. Should your company be interested in negotiating a Master Contract with Halliburton, our Law Department would be pleased to work with you to finalize a mutually agreeable contract. In this connection, it is also understood and agreed that Customer will continue to execute Halliburton usual field work orders and/or tickets customarily required by Halliburton in connection with the furnishing of said services, equipment, and materials.

Any terms and conditions contained in purchase orders or other documents issued by the customer shall be of no effect except to confirm the type and quantity of services, equipment, and materials to be supplied to the customer.

If customer does not have an approved open account with Halliburton or a mutually executed written contract with Halliburton, which dictates payment terms different than those set forth in this clause, all sums due are payable in cash at the time of performance of services or delivery of equipment, products, or materials. If customer has an approved open account, invoices are payable on the twentieth day after date of invoice.

Customer agrees to pay interest on any unpaid balance from the date payable until paid at the highest lawful contract rate applicable, but never to exceed 18% per annum. In the event Halliburton employs an attorney for collection of any account, customer agrees to pay attorney fees of 20% of the unpaid account, plus all collection and court costs.

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

AMENDED REPORT ☐ FORM 8  
(highlight changes)

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL:		OIL WELL <input type="checkbox"/>	GAS WELL <input checked="" type="checkbox"/>	DRY <input type="checkbox"/>	OTHER <input type="checkbox"/>		
b. TYPE OF WORK:		NEW WELL <input checked="" type="checkbox"/>	HORIZ. LATS. <input type="checkbox"/>	DEEP-EN <input type="checkbox"/>	RE-ENTRY <input type="checkbox"/>	DIFF. RESVR. <input type="checkbox"/>	OTHER <input type="checkbox"/>
2. NAME OF OPERATOR: Whiting Oil and Gas Corporation						8. WELL NAME and NUMBER: Ute Tribal 5-32-14-20	
3. ADDRESS OF OPERATOR: 1700 Broadway, #2300 CITY Denver STATE CO ZIP 80290				PHONE NUMBER: (303) 837-1661		9. API NUMBER: 4304739741	
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: 809 FNL 1529 FWL NENW  AT TOP PRODUCING INTERVAL REPORTED BELOW: 1981 FNL 645 FWL SWNW <b>2004 FNL 0619 FWL</b> AT TOTAL DEPTH: 2003 FNL 600 FWL SWNW						10. FIELD AND POOL, OR WILDCAT Flat Rock	
						11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENW 32 14S 20E	
						12. COUNTY Uintah	13. STATE UTAH

14. DATE SPUDDED: 10/8/2009	15. DATE T.D. REACHED: 11/29/2009	16. DATE COMPLETED: 2/17/2010	ABANDONED <input type="checkbox"/>	READY TO PRODUCE <input checked="" type="checkbox"/>	17. ELEVATIONS (DF, RKB, RT, GL): 7498 GR, 7527 KB
18. TOTAL DEPTH: MD 12,370 TVD 12,230	19. PLUG BACK T.D.: MD 11,600 TVD 11,460	20. IF MULTIPLE COMPLETIONS, HOW MANY? * N/A		21. DEPTH BRIDGE MD 11,621 PLUG SET: TVD 11,481	
22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each) ✓ CB/GR/CCL, HVC-Run 1&2, Comp Trip Combo Qklk-Run 1&2, DLR-Run 1&2, CPD/CDN-Run 1&2				23. WAS WELL CORED? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> (Submit analysis) WAS DST RUN? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> (Submit report) DIRECTIONAL SURVEY? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> (Submit copy)	

24. CASING AND LINER RECORD (Report all strings set in well)									
HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
17 1/2"	13 3/8 J55	54.5	0	478			129	0	
12 3/4"	9 5/8 J55	40	0	4,616		Lite 625	425	0	
						PL 240	61	0	
8 3/4"	7 L80	29	0	11,622		PP 530	165	3900	
						PP 145	44	10300	
6"	4 1/2" HCP 110	11.6	11,337	12,370		50/50 60	21	11357	

25. TUBING RECORD								
SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	10,538							

26. PRODUCING INTERVALS					27. PERFORATION RECORD				
FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS	
(A) Dakota Silt	10,564	10,574	10,425	10,435	10,564 10,574		12	Open <input checked="" type="checkbox"/>	Squeezed <input type="checkbox"/>
(B) Entrada	11,691	11,719	11,551	11,579	11,691 11,695		12	Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>
(C)					11,701 11,707		18	Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>
(D)					11,709 11,719		30	Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.	
DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
10564'-10574'	7880# 100 Mesh, 150240# 20/40 PRC, 30Q pHasfrac, 92 tns CO2, 1490 bbls
11691'-11719'	10K# Jordan Sand, 1236 bbls
11691'-11719'	80160# 30-50 Temp LC, 30Q CO2, Foam Frac, 1402 bbls

29. ENCLOSED ATTACHMENTS:				30. WELL STATUS:
<input type="checkbox"/> ELECTRICAL/MECHANICAL LOGS	<input type="checkbox"/> GEOLOGIC REPORT	<input type="checkbox"/> DST REPORT	<input checked="" type="checkbox"/> DIRECTIONAL SURVEY	Shut In
<input type="checkbox"/> SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION	<input type="checkbox"/> CORE ANALYSIS	<input checked="" type="checkbox"/> OTHER: WB Diag		

RECEIVED

JUN 07 2010

## 31. INITIAL PRODUCTION

## INTERVAL A (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD: Swab
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS: SI

## INTERVAL B (As shown in item #26)

DATE FIRST PRODUCED: 2/22/2010		TEST DATE: 2/23/2010		HOURS TESTED: 24		TEST PRODUCTION RATES: →		OIL – BBL: 0		GAS – MCF: 460		WATER – BBL: 12		PROD. METHOD: Flowing	
CHOKE SIZE: 16/64	TBG. PRESS. 1,550	CSG. PRESS. 1,850	API GRAVITY	BTU – GAS 1,061	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 460	WATER – BBL: 12	INTERVAL STATUS: TA					

## INTERVAL C (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

## INTERVAL D (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

## 32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

Sold

## 33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

## 34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				Castlegate	6,405
				Dakota Silt	10,564
				Dakota	10,658
				Cedar Mountain	10,784
				Buckhorn	10,898
				Morrison	10,954
				Curtis	11,587
				Entrada	11,680
				Kayenta	11,966
				Wingate	12,065

## 35. ADDITIONAL REMARKS (Include plugging procedure)

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) Pauleen TobinTITLE Engineer TechSIGNATURE DATE 6/1/10

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

\* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

\*\* ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

Whiting Oil and Gas Corporation  
Form 8  
Ute Tribal 5-32-14-20

26 & 27. Perforation Record continued for:

Formation MD	Formation TVD	Perforation Interval	Con't	No. of holes	Perf Status
Kayenta	12035'-12043'	11895'-11903'	12035'-43'	24	Plugged off
Wingate	12120'-12140'	11980'-12000'	12120'-28'	24	Plugged off
			12124'-25'	4	Plugged off
			12132'-40'	24	Plugged off

(DFIT)

28. Acid, Fracture, Treatment, Cement Squeeze, etc.

Depth Interval	Amount and Type of Material
12035'-12043'	10% HCl breakdown 24 bbls
12124'-12125'	10% HCl breakdown 44.5 bbls

# **Whiting Petroleum Corporation**

**Uintah County, UT  
Section 32-T14S-R20E  
UTE Tribal 5-32-14-20  
Well**

**Survey: Final Survey Report**

## **Standard Survey Report**

**24 November, 2009**

**Whiting Petroleum Corporation**  
**UTE Tribal 5-32-14-20**  
**Uintah County, UT**  
**Final Survey Report**



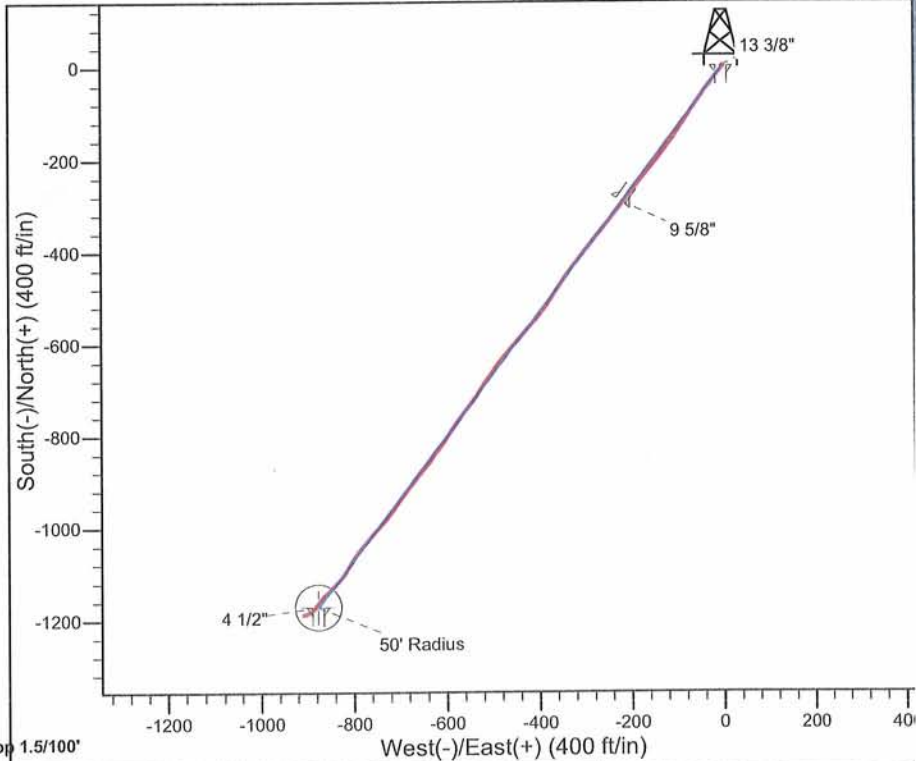
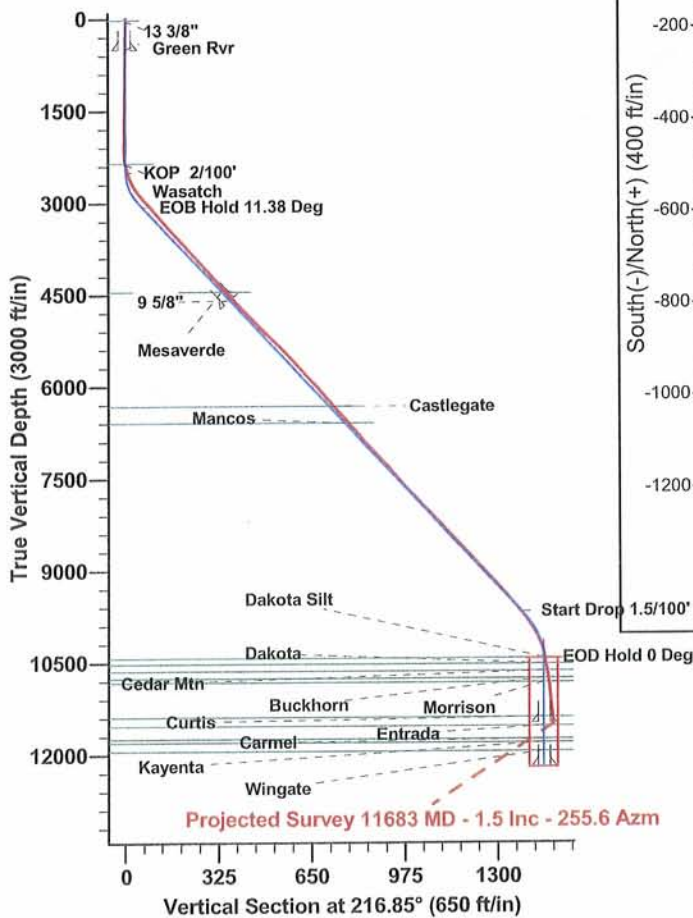
**PROJECT DETAILS: Uintah County, UT**

Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: Utah Central Zone  
  
 System Datum: Mean Sea Level



Azimuths to True North  
 Magnetic North: 11.29°

Magnetic Field  
 Strength: 52238.2snT  
 Dip Angle: 65.52°  
 Date: 2009/10/04  
 Model: IGRF200510



**FORMATION TOP DETAILS**

TVDPPath	MDPath	Formation
28.0	28.0	Green Rvr
2357.0	2357.0	Wasatch
4457.0	4488.7	Mesaverde
6327.0	6396.2	Castlegate
6602.0	6676.7	Mancos
10432.0	10573.4	Dakota Silt
10527.0	10668.4	Dakota
10644.0	10785.4	Cedar Mtn
10760.0	10901.4	Buckhorn
10827.0	10968.4	Morrison
11394.0	11535.4	Curtis
11537.0	11678.4	Entrada
11750.0	11891.4	Carmel
11807.0	11948.4	Kayenta
11947.0	12088.4	Wingate

**SECTION DETAILS**

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
2	2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0
3	3069.1	11.38	216.85	3065.4	-45.1	-33.8	2.00	216.85	56.3
4	9814.6	11.38	216.85	9678.2	-1110.4	-832.1	0.00	0.00	1387.6
5	10573.4	0.00	0.00	10432.0	-1170.5	-877.1	1.50	180.00	1462.7
6	12338.4	0.00	0.00	12197.0	-1170.5	-877.1	0.00	0.00	1462.7

5-32-14-20

# Survey Report

**Company:** Whiting Petroleum Corporation  
**Project:** Uintah County, UT  
**Site:** Section 32-T14S-R20E  
**Well:** UTE Tribal 5-32-14-20  
**Wellbore:** Well  
**Design:** Well

**Local Co-ordinate Reference:** Well UTE Tribal 5-32-14-20  
**TVD Reference:** WELL @ 7527.0ft (Bronco Rig)  
**MD Reference:** WELL @ 7527.0ft (Bronco Rig)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Single User Db

**Project** Uintah County, UT  
**Map System:** US State Plane 1983  
**Geo Datum:** North American Datum 1983  
**Map Zone:** Utah Central Zone

**System Datum:** Mean Sea Level

**Site** Section 32-T14S-R20E

**Site Position:**  
**From:** Lat/Long  
**Position Uncertainty:** 0.0 ft  
**Northing:** 7,013,846.02 ft  
**Easting:** 2,145,484.00 ft  
**Slot Radius:** "  
**Latitude:** 39° 33' 39.240 N  
**Longitude:** 109° 42' 30.161 W  
**Grid Convergence:** 1.15 °

**Well** UTE Tribal 5-32-14-20

**Well Position** +N/-S 0.0 ft **Northing:** 7,013,837.29 ft **Latitude:** 39° 33' 39.020 N  
+/-E/-W 0.0 ft **Easting:** 2,146,160.24 ft **Longitude:** 109° 42' 21.530 W  
**Position Uncertainty** 0.0 ft **Wellhead Elevation:** 7,527.0 ft **Ground Level:** 7,499.0 ft

**Wellbore** Well

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2009/10/04	11.29	65.52	52,238

**Design** Well

**Audit Notes:**

**Version:** 1.0 **Phase:** ACTUAL **Tie On Depth:** 0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	214.97

**Survey Program** **Date** 2009/11/24

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
2,094.0	11,638.0	Final Survey Report (Well)	MWD	

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
2,094.0	0.30	55.40	2,094.0	3.1	4.5	-5.1	0.01	0.01	0.00
2,124.0	0.40	173.70	2,124.0	3.1	4.6	-5.1	2.01	0.33	394.33
2,158.0	0.50	147.70	2,158.0	2.8	4.7	-5.0	0.66	0.29	-76.47
2,189.0	0.00	193.60	2,189.0	2.7	4.8	-4.9	1.61	-1.61	0.00
2,221.0	0.70	219.40	2,221.0	2.5	4.6	-4.7	2.19	2.19	0.00
2,251.0	0.90	225.60	2,251.0	2.2	4.3	-4.3	0.73	0.67	20.67
2,282.0	0.90	205.20	2,282.0	1.8	4.1	-3.8	1.03	0.00	-65.81
2,314.0	1.20	214.70	2,314.0	1.3	3.8	-3.3	1.08	0.94	29.69
2,346.0	1.80	207.50	2,346.0	0.6	3.3	-2.4	1.96	1.87	-22.50
2,377.0	2.40	218.00	2,376.9	-0.3	2.7	-1.3	2.29	1.94	33.87
2,409.0	2.60	216.00	2,408.9	-1.4	1.9	0.1	0.68	0.62	-6.25
2,438.0	2.80	216.10	2,437.9	-2.5	1.1	1.5	0.69	0.69	0.34



# Survey Report

**Company:** Whiting Petroleum Corporation  
**Project:** Uintah County, UT  
**Site:** Section 32-T14S-R20E  
**Well:** UTE Tribal 5-32-14-20  
**Wellbore:** Well  
**Design:** Well

**Local Co-ordinate Reference:** Well UTE Tribal 5-32-14-20  
**TVD Reference:** WELL @ 7527.0ft (Bronco Rig)  
**MD Reference:** WELL @ 7527.0ft (Bronco Rig)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Single User Db

## Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,473.0	3.30	219.80	2,472.8	-4.0	-0.1	3.3	1.53	1.43	10.57
2,506.0	3.60	222.60	2,505.8	-5.5	-1.4	5.3	1.04	0.91	8.48
2,536.0	4.40	224.00	2,535.7	-7.0	-2.8	7.4	2.69	2.67	4.67
2,567.0	4.70	224.00	2,566.6	-8.8	-4.5	9.8	0.97	0.97	0.00
2,599.0	4.80	222.20	2,598.5	-10.7	-6.3	12.4	0.56	0.31	-5.62
2,631.0	5.50	223.60	2,630.4	-12.8	-8.3	15.3	2.22	2.19	4.37
2,663.0	5.80	216.80	2,662.2	-15.2	-10.3	18.4	2.29	0.94	-21.25
2,696.0	6.50	220.80	2,695.0	-18.0	-12.5	21.9	2.49	2.12	12.12
2,728.0	7.00	219.10	2,726.8	-20.9	-14.9	25.7	1.68	1.56	-5.31
2,760.0	7.30	218.70	2,758.5	-24.0	-17.5	29.6	0.95	0.94	-1.25
2,792.0	8.10	216.30	2,790.3	-27.4	-20.1	33.9	2.69	2.50	-7.50
2,823.0	8.40	217.30	2,820.9	-30.9	-22.7	38.4	1.07	0.97	3.23
2,855.0	9.30	217.50	2,852.6	-34.8	-25.7	43.3	2.81	2.81	0.62
2,887.0	9.70	215.20	2,884.1	-39.1	-28.8	48.6	1.72	1.25	-7.19
2,919.0	10.10	218.40	2,915.6	-43.5	-32.1	54.1	2.13	1.25	10.00
2,950.0	10.60	217.50	2,946.1	-47.9	-35.6	59.6	1.70	1.61	-2.90
2,982.0	10.60	215.50	2,977.6	-52.6	-39.1	65.5	1.15	0.00	-6.25
3,012.0	10.60	214.30	3,007.1	-57.1	-42.2	71.0	0.74	0.00	-4.00
3,044.0	10.70	215.50	3,038.5	-62.0	-45.6	76.9	0.76	0.31	3.75
3,075.0	10.60	214.10	3,069.0	-66.7	-48.9	82.7	0.89	-0.32	-4.52
3,107.0	10.40	215.40	3,100.5	-71.5	-52.2	88.5	0.97	-0.62	4.06
3,139.0	10.60	217.00	3,131.9	-76.2	-55.6	94.3	1.10	0.62	5.00
3,169.0	10.80	214.50	3,161.4	-80.7	-58.9	99.9	1.68	0.67	-8.33
3,202.0	10.60	213.30	3,193.8	-85.8	-62.3	106.0	0.91	-0.61	-3.64
3,234.0	10.60	213.80	3,225.3	-90.7	-65.6	111.9	0.29	0.00	1.56
3,266.0	10.60	215.20	3,256.7	-95.6	-68.9	117.8	0.80	0.00	4.37
3,298.0	10.80	214.70	3,288.2	-100.4	-72.3	123.7	0.69	0.62	-1.56
3,329.0	10.80	213.60	3,318.6	-105.2	-75.6	129.5	0.66	0.00	-3.55
3,361.0	10.90	213.40	3,350.1	-110.3	-78.9	135.6	0.33	0.31	-0.62
3,490.0	10.60	212.00	3,476.8	-130.5	-91.9	159.6	0.31	-0.23	-1.09
3,522.0	10.60	212.90	3,508.2	-135.5	-95.0	165.5	0.52	0.00	2.81
3,554.0	10.80	212.40	3,539.7	-140.5	-98.3	171.4	0.69	0.62	-1.56
3,584.0	10.90	212.70	3,569.2	-145.2	-101.3	177.1	0.38	0.33	1.00
3,615.0	11.00	214.00	3,599.6	-150.1	-104.5	182.9	0.86	0.32	4.19
3,647.0	11.10	215.00	3,631.0	-155.2	-108.0	189.1	0.68	0.31	3.12
3,679.0	11.00	214.70	3,662.4	-160.2	-111.5	195.2	0.36	-0.31	-0.94
3,710.0	11.20	215.00	3,692.8	-165.1	-114.9	201.2	0.67	0.65	0.97
3,742.0	11.00	217.70	3,724.2	-170.1	-118.6	207.3	1.74	-0.62	8.44
3,771.0	11.10	218.20	3,752.7	-174.5	-122.0	212.9	0.48	0.34	1.72
3,806.0	10.90	218.40	3,787.0	-179.7	-126.1	219.6	0.58	-0.57	0.57
3,869.0	10.70	217.70	3,848.9	-189.0	-133.4	231.3	0.38	-0.32	-1.11
3,901.0	10.60	217.10	3,880.4	-193.7	-137.0	237.3	0.47	-0.31	-1.87
3,933.0	10.60	218.00	3,911.8	-198.4	-140.6	243.1	0.52	0.00	2.81
3,964.0	10.70	218.50	3,942.3	-202.9	-144.1	248.9	0.44	0.32	1.61
3,998.0	10.80	219.40	3,975.7	-207.8	-148.1	255.2	0.57	0.29	2.65
4,062.0	10.80	218.50	4,038.6	-217.1	-155.7	267.1	0.26	0.00	-1.41
4,125.0	11.10	219.90	4,100.4	-226.4	-163.2	279.1	0.64	0.48	2.22
4,189.0	11.10	219.10	4,163.2	-235.9	-171.1	291.4	0.24	0.00	-1.25
4,252.0	11.00	218.90	4,225.1	-245.3	-178.7	303.4	0.17	-0.16	-0.32
4,316.0	11.20	217.50	4,287.9	-255.0	-186.3	315.7	0.52	0.31	-2.19
4,380.0	11.20	216.10	4,350.6	-264.9	-193.7	328.1	0.42	0.00	-2.19
4,442.0	11.00	218.20	4,411.5	-274.4	-200.9	340.1	0.73	-0.32	3.39
4,505.0	11.00	219.10	4,473.3	-283.8	-208.4	352.1	0.27	0.00	1.43
4,563.0	10.80	218.20	4,530.3	-292.4	-215.3	363.0	0.45	-0.34	-1.55

# Survey Report

**Company:** Whiting Petroleum Corporation  
**Project:** Uintah County, UT  
**Site:** Section 32-T14S-R20E  
**Well:** UTE Tribal 5-32-14-20  
**Wellbore:** Well  
**Design:** Well

**Local Co-ordinate Reference:** Well UTE Tribal 5-32-14-20  
**TVD Reference:** WELL @ 7527.0ft (Bronco Rig)  
**MD Reference:** WELL @ 7527.0ft (Bronco Rig)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Single User Db

## Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,622.0	11.20	217.70	4,588.2	-301.3	-222.2	374.2	0.70	0.68	-0.85
4,653.0	11.00	218.20	4,618.6	-306.0	-225.9	380.2	0.72	-0.65	1.61
4,687.0	11.30	217.00	4,652.0	-311.2	-229.9	386.8	1.12	0.88	-3.53
4,719.0	11.30	217.70	4,683.3	-316.2	-233.7	393.0	0.43	0.00	2.19
4,782.0	11.90	219.60	4,745.1	-326.1	-241.6	405.7	1.13	0.95	3.02
4,846.0	12.00	218.00	4,807.7	-336.4	-249.9	418.9	0.54	0.16	-2.50
4,909.0	12.00	219.20	4,869.3	-346.6	-258.1	432.0	0.40	0.00	1.90
4,971.0	12.00	218.70	4,929.9	-356.7	-266.2	444.8	0.17	0.00	-0.81
5,035.0	12.00	219.90	4,992.5	-367.0	-274.6	458.1	0.39	0.00	1.87
5,098.0	11.80	217.80	5,054.2	-377.1	-282.8	471.0	0.76	-0.32	-3.33
5,160.0	11.90	217.30	5,114.9	-387.2	-290.5	483.8	0.23	0.16	-0.81
5,223.0	12.20	217.70	5,176.5	-397.6	-298.5	496.9	0.49	0.48	0.63
5,287.0	12.20	218.40	5,239.0	-408.2	-306.9	510.4	0.23	0.00	1.09
5,350.0	12.40	219.60	5,300.6	-418.7	-315.3	523.8	0.52	0.32	1.90
5,414.0	12.10	216.60	5,363.1	-429.4	-323.7	537.4	1.10	-0.47	-4.69
5,479.0	12.00	217.00	5,426.7	-440.2	-331.8	550.9	0.20	-0.15	0.62
5,543.0	12.10	214.70	5,489.3	-451.0	-339.6	564.3	0.77	0.16	-3.59
5,607.0	12.00	213.60	5,551.9	-462.1	-347.1	577.6	0.39	-0.16	-1.72
5,670.0	11.60	214.00	5,613.5	-472.8	-354.3	590.5	0.65	-0.63	0.63
5,734.0	11.60	212.70	5,676.2	-483.6	-361.4	603.4	0.41	0.00	-2.03
5,797.0	11.30	211.30	5,738.0	-494.2	-368.0	615.9	0.65	-0.48	-2.22
5,861.0	11.10	212.90	5,800.8	-504.7	-374.6	628.3	0.58	-0.31	2.50
5,924.0	10.30	213.40	5,862.7	-514.5	-381.0	640.0	1.28	-1.27	0.79
5,954.0	10.10	216.80	5,892.2	-518.8	-384.1	645.3	2.11	-0.67	11.33
5,986.0	10.40	217.70	5,923.7	-523.4	-387.5	651.0	1.06	0.94	2.81
6,017.0	10.80	219.10	5,954.2	-527.8	-391.0	656.7	1.53	1.29	4.52
6,049.0	10.70	217.70	5,985.6	-532.5	-394.8	662.6	0.87	-0.31	-4.37
6,112.0	10.70	218.70	6,047.5	-541.7	-402.0	674.3	0.29	0.00	1.59
6,144.0	10.40	217.50	6,079.0	-546.3	-405.6	680.1	1.16	-0.94	-3.75
6,176.0	9.80	220.60	6,110.5	-550.7	-409.1	685.7	2.53	-1.87	9.69
6,241.0	10.40	221.70	6,174.5	-559.3	-416.6	697.1	0.97	0.92	1.69
6,305.0	11.10	221.00	6,237.3	-568.2	-424.5	708.9	1.11	1.09	-1.09
6,369.0	11.20	220.50	6,300.1	-577.6	-432.6	721.2	0.22	0.16	-0.78
6,432.0	10.90	219.80	6,362.0	-586.8	-440.4	733.3	0.52	-0.48	-1.11
6,496.0	11.10	220.10	6,424.8	-596.2	-448.2	745.4	0.33	0.31	0.47
6,559.0	11.40	221.00	6,486.6	-605.5	-456.2	757.7	0.55	0.48	1.43
6,623.0	10.70	220.60	6,549.4	-614.8	-464.2	769.9	1.10	-1.09	-0.62
6,686.0	10.60	219.90	6,611.3	-623.7	-471.8	781.5	0.26	-0.16	-1.11
6,750.0	10.40	218.00	6,674.2	-632.8	-479.1	793.1	0.62	-0.31	-2.97
6,816.0	10.90	217.70	6,739.1	-642.4	-486.6	805.3	0.76	0.76	-0.45
6,876.0	11.10	217.70	6,798.0	-651.4	-493.6	816.7	0.33	0.33	0.00
6,940.0	10.90	215.90	6,860.8	-661.2	-500.9	828.9	0.62	-0.31	-2.81
7,003.0	11.00	212.40	6,922.7	-671.1	-507.6	840.9	1.07	0.16	-5.56
7,035.0	11.30	211.90	6,954.1	-676.4	-510.9	847.1	0.98	0.94	-1.56
7,067.0	11.20	212.20	6,985.4	-681.7	-514.2	853.3	0.36	-0.31	0.94
7,098.0	11.40	212.00	7,015.8	-686.8	-517.4	859.4	0.66	0.65	-0.65
7,130.0	11.10	212.40	7,047.2	-692.1	-520.8	865.6	0.97	-0.94	1.25
7,193.0	11.20	213.30	7,109.0	-702.3	-527.4	877.8	0.32	0.16	1.43
7,253.0	11.40	214.80	7,167.9	-712.1	-534.0	889.5	0.59	0.33	2.50
7,320.0	11.40	214.80	7,233.6	-722.9	-541.5	902.8	0.00	0.00	0.00
7,384.0	11.20	216.40	7,296.3	-733.1	-548.8	915.3	0.58	-0.31	2.50
7,442.0	10.20	218.00	7,353.3	-741.7	-555.3	926.1	1.80	-1.72	2.76
7,480.0	9.60	218.20	7,390.7	-746.8	-559.3	932.6	1.58	-1.58	0.53
7,513.0	9.80	218.20	7,423.3	-751.2	-562.8	938.1	0.61	0.61	0.00

# Survey Report

**Company:** Whiting Petroleum Corporation  
**Project:** Uintah County, UT  
**Site:** Section 32-T14S-R20E  
**Well:** UTE Tribal 5-32-14-20  
**Wellbore:** Well  
**Design:** Well

**Local Co-ordinate Reference:** Well UTE Tribal 5-32-14-20  
**TVD Reference:** WELL @ 7527.0ft (Bronco Rig)  
**MD Reference:** WELL @ 7527.0ft (Bronco Rig)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Single User Db

## Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,545.0	9.80	216.80	7,454.8	-755.5	-566.1	943.6	0.74	0.00	-4.37
7,609.0	11.20	215.00	7,517.7	-765.0	-572.9	955.2	2.25	2.19	-2.81
7,672.0	11.60	214.50	7,579.5	-775.2	-580.0	967.7	0.65	0.63	-0.79
7,736.0	11.30	214.00	7,642.2	-785.7	-587.2	980.4	0.49	-0.47	-0.78
7,799.0	11.30	214.00	7,704.0	-796.0	-594.1	992.7	0.00	0.00	0.00
7,863.0	11.50	214.00	7,766.7	-806.4	-601.2	1,005.4	0.31	0.31	0.00
7,926.0	11.80	214.30	7,828.4	-817.0	-608.3	1,018.1	0.49	0.48	0.48
7,991.0	11.90	213.80	7,892.0	-828.0	-615.8	1,031.5	0.22	0.15	-0.77
8,053.0	11.50	215.00	7,952.8	-838.4	-622.9	1,044.0	0.76	-0.65	1.94
8,117.0	11.30	215.70	8,015.5	-848.7	-630.2	1,056.7	0.38	-0.31	1.09
8,180.0	12.20	217.50	8,077.2	-859.0	-637.8	1,069.5	1.54	1.43	2.86
8,244.0	12.60	218.90	8,139.7	-869.8	-646.3	1,083.2	0.78	0.62	2.19
8,308.0	12.40	218.70	8,202.2	-880.6	-655.0	1,097.0	0.32	-0.31	-0.31
8,367.0	11.10	217.30	8,259.9	-890.1	-662.4	1,109.0	2.26	-2.20	-2.37
8,435.0	11.90	215.00	8,326.6	-901.0	-670.4	1,122.6	1.36	1.18	-3.38
8,498.0	12.10	216.60	8,388.2	-911.6	-678.1	1,135.7	0.62	0.32	2.54
8,530.0	12.00	218.20	8,419.5	-917.0	-682.1	1,142.4	1.09	-0.31	5.00
8,594.0	11.10	217.50	8,482.2	-927.1	-690.0	1,155.2	1.42	-1.41	-1.09
8,657.0	11.40	217.30	8,544.0	-936.8	-697.5	1,167.4	0.48	0.48	-0.32
8,721.0	11.30	216.10	8,606.7	-946.9	-705.0	1,180.0	0.40	-0.16	-1.87
8,784.0	11.20	214.10	8,668.5	-957.0	-712.1	1,192.3	0.64	-0.16	-3.17
8,816.0	10.80	214.10	8,699.9	-962.0	-715.5	1,198.4	1.25	-1.25	0.00
8,879.0	11.40	217.30	8,761.7	-971.9	-722.6	1,210.5	1.36	0.95	5.08
8,943.0	11.60	221.20	8,824.5	-981.8	-730.6	1,223.3	1.25	0.31	6.09
9,006.0	11.60	221.50	8,886.2	-991.3	-739.0	1,235.9	0.10	0.00	0.48
9,070.0	11.30	220.80	8,948.9	-1,000.8	-747.4	1,248.5	0.52	-0.47	-1.09
9,134.0	11.00	220.10	9,011.7	-1,010.2	-755.4	1,260.8	0.51	-0.47	-1.09
9,197.0	11.10	219.10	9,073.5	-1,019.6	-763.1	1,272.8	0.34	0.16	-1.59
9,260.0	11.30	220.60	9,135.3	-1,028.9	-770.9	1,285.0	0.56	0.32	2.38
9,321.0	10.80	219.80	9,195.2	-1,037.9	-778.5	1,296.7	0.86	-0.82	-1.31
9,386.0	10.60	217.80	9,259.1	-1,047.3	-786.0	1,308.7	0.65	-0.31	-3.08
9,449.0	10.60	217.00	9,321.0	-1,056.5	-793.1	1,320.3	0.23	0.00	-1.27
9,513.0	11.00	214.30	9,383.9	-1,066.2	-800.1	1,332.3	1.01	0.62	-4.22
9,577.0	10.60	212.70	9,446.7	-1,076.2	-806.7	1,344.3	0.78	-0.62	-2.50
9,610.0	10.50	212.60	9,479.2	-1,081.3	-809.9	1,350.3	0.31	-0.30	-0.30
9,674.0	10.70	214.30	9,542.1	-1,091.1	-816.4	1,362.1	0.58	0.31	2.66
9,737.0	9.70	214.00	9,604.1	-1,100.4	-822.7	1,373.2	1.59	-1.59	-0.48
9,801.0	9.10	218.50	9,667.2	-1,108.8	-828.9	1,383.7	1.48	-0.94	7.03
9,864.0	9.10	219.90	9,729.4	-1,116.5	-835.2	1,393.6	0.35	0.00	2.22
9,928.0	9.00	222.80	9,792.6	-1,124.1	-841.8	1,403.6	0.73	-0.16	4.53
9,991.0	9.00	223.60	9,854.9	-1,131.3	-848.6	1,413.4	0.20	0.00	1.27
10,055.0	8.60	224.70	9,918.1	-1,138.3	-855.4	1,423.0	0.68	-0.62	1.72
10,113.0	7.60	226.10	9,975.5	-1,144.0	-861.2	1,431.1	1.76	-1.72	2.41
10,179.0	6.20	225.00	10,041.0	-1,149.6	-866.9	1,438.9	2.13	-2.12	-1.67
10,245.0	5.80	217.50	10,106.7	-1,154.7	-871.4	1,445.7	1.33	-0.61	-11.36
10,308.0	5.10	215.00	10,169.4	-1,159.6	-874.9	1,451.7	1.17	-1.11	-3.97
10,339.0	4.50	217.80	10,200.3	-1,161.6	-876.5	1,454.3	2.08	-1.94	9.03
10,371.0	4.30	216.40	10,232.2	-1,163.6	-878.0	1,456.7	0.71	-0.62	-4.37
10,403.0	4.00	216.80	10,264.1	-1,165.5	-879.3	1,459.0	0.94	-0.94	1.25
10,430.0	3.50	216.60	10,291.1	-1,166.9	-880.4	1,460.8	1.85	-1.85	-0.74
10,461.0	3.20	217.30	10,322.0	-1,168.3	-881.5	1,462.6	0.98	-0.97	2.26
10,493.0	2.80	214.50	10,354.0	-1,169.7	-882.5	1,464.3	1.33	-1.25	-8.75
10,524.0	2.70	214.70	10,384.9	-1,170.9	-883.3	1,465.8	0.32	-0.32	0.65
10,570.9	2.30	213.33	10,431.8	-1,172.6	-884.5	1,467.8	0.86	-0.85	-2.91

5-32-14-20

# Survey Report

**Company:** Whiting Petroleum Corporation  
**Project:** Uintah County, UT  
**Site:** Section 32-T14S-R20E  
**Well:** UTE Tribal 5-32-14-20  
**Wellbore:** Well  
**Design:** Well

**Local Co-ordinate Reference:** Well UTE Tribal 5-32-14-20  
**TVD Reference:** WELL @ 7527.0ft (Bronco Rig)  
**MD Reference:** WELL @ 7527.0ft (Bronco Rig)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Single User Db

## Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,583.0	2.20	212.90	10,443.9	-1,173.0	-884.7	1,468.3	0.86	-0.85	-3.58
10,623.0	1.90	222.60	10,483.8	-1,174.1	-885.6	1,469.7	1.14	-0.75	24.25
10,655.0	2.10	223.30	10,515.8	-1,174.9	-886.3	1,470.8	0.63	0.62	2.19
10,687.0	2.10	220.80	10,547.8	-1,175.8	-887.1	1,472.0	0.29	0.00	-7.81
10,719.0	2.10	221.20	10,579.8	-1,176.7	-887.9	1,473.2	0.05	0.00	1.25
10,751.0	2.20	222.90	10,611.8	-1,177.6	-888.7	1,474.3	0.37	0.31	5.31
10,783.0	2.40	221.20	10,643.7	-1,178.6	-889.6	1,475.6	0.66	0.62	-5.31
10,815.0	2.50	220.80	10,675.7	-1,179.6	-890.5	1,477.0	0.32	0.31	-1.25
10,847.0	2.60	224.90	10,707.7	-1,180.6	-891.4	1,478.4	0.65	0.31	12.81
10,879.0	2.60	228.00	10,739.6	-1,181.6	-892.5	1,479.8	0.44	0.00	9.69
10,911.0	2.30	237.50	10,771.6	-1,182.5	-893.6	1,481.1	1.57	-0.94	29.69
10,942.0	2.30	240.20	10,802.6	-1,183.1	-894.6	1,482.2	0.35	0.00	8.71
10,975.0	1.70	259.80	10,835.6	-1,183.5	-895.7	1,483.2	2.73	-1.82	59.39
11,006.0	1.10	251.60	10,866.6	-1,183.7	-896.4	1,483.8	2.04	-1.94	-26.45
11,038.0	1.10	238.80	10,898.5	-1,183.9	-897.0	1,484.3	0.77	0.00	-40.00
11,070.0	1.30	242.80	10,930.5	-1,184.3	-897.6	1,484.9	0.68	0.62	12.50
11,100.0	1.10	242.10	10,960.5	-1,184.6	-898.1	1,485.4	0.67	-0.67	-2.33
11,132.0	1.20	249.60	10,992.5	-1,184.8	-898.7	1,486.0	0.56	0.31	23.44
11,163.0	1.40	243.70	11,023.5	-1,185.1	-899.3	1,486.6	0.78	0.65	-19.03
11,195.0	1.10	241.90	11,055.5	-1,185.4	-900.0	1,487.2	0.95	-0.94	-5.62
11,226.0	1.50	242.40	11,086.5	-1,185.7	-900.6	1,487.8	1.29	1.29	1.61
11,258.0	1.30	242.30	11,118.5	-1,186.1	-901.3	1,488.5	0.63	-0.62	-0.31
11,290.0	1.20	256.90	11,150.5	-1,186.4	-901.9	1,489.1	1.04	-0.31	45.62
11,352.0	1.40	245.10	11,212.5	-1,186.8	-903.2	1,490.2	0.54	0.32	-19.03
11,415.0	1.50	244.20	11,275.4	-1,187.5	-904.7	1,491.6	0.16	0.16	-1.43
11,480.0	1.50	258.80	11,340.4	-1,188.0	-906.3	1,493.0	0.59	0.00	22.46
11,585.0	1.50	255.60	11,445.4	-1,188.6	-909.0	1,495.0	0.08	0.00	-3.05
11,638.0	1.50	255.60	11,498.4	-1,189.0	-910.3	1,496.1	0.00	0.00	0.00

## Projected Survey

## Targets

### Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
5-32-14-20	0.00	0.00	10,432.0	-1,170.5	-877.1	7,012,649.39	2,145,306.75	39° 33' 27.450 N	109° 42' 32.730 W
- survey misses by 7.6ft at 10570.9ft MD (10431.8 TVD, -1172.6 N, -884.5 E)									
- Circle (radius 50.0)									

## Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
11,638.0	11,498.4	-1,189.0	-910.3	Projected Survey

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_





Whiting Oil & Gas Corp  
1700 Broadway, Suite 2300  
Denver, CO 80290  
(303) 837-1661

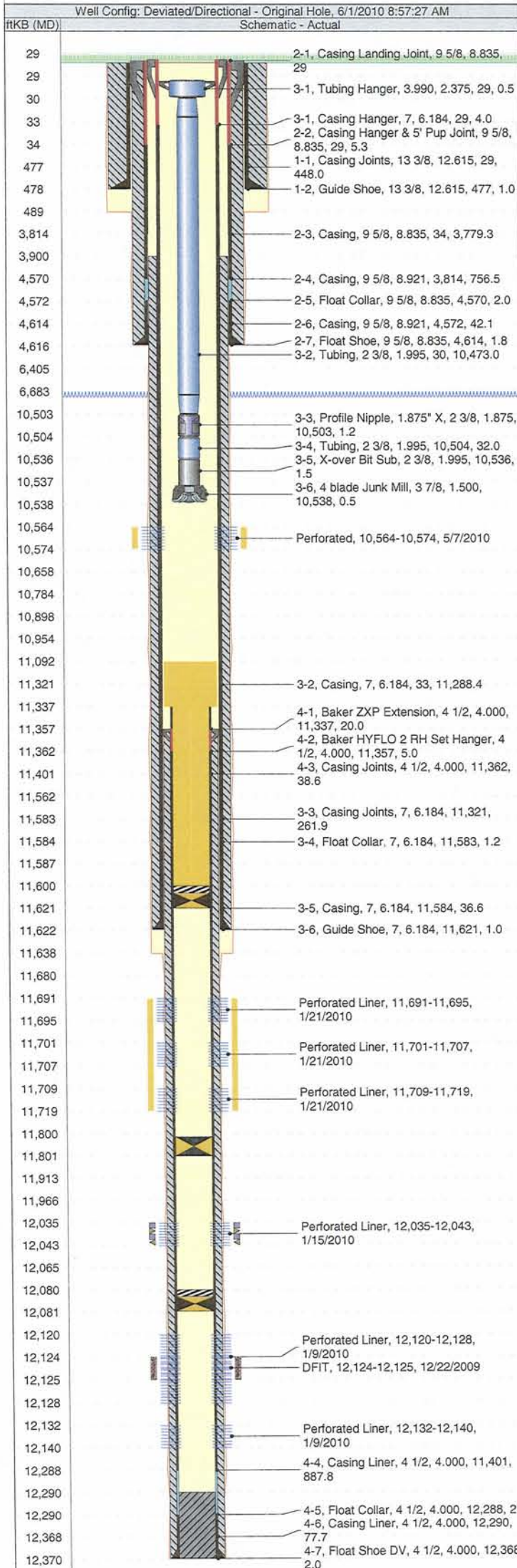
## Completion Report Info

Well Name: UTE TRIBAL 5-32-14-20

WPC ID	API Number	Well Permit Number	N/S Dist...	N/S ...	E/W Dist (ft)	E/W...	Qtr/Qtr	Sec...	Tow...	Range	Field Name	Operator	County	State
1UT026847	4304739741	UTU-044317	809.0	FNL	1,529.0	FWL	NE/NW	32	14S	20E	Flat Rock	WOGC	Uintah	UT
Gr Elev (ft)	Orig KB Elev (ft)	KB-Grd (ft)	Drilling Contact	Responsible Engineer		Responsible Foreman		Geology Contact		Original Spud Date		Completion Date		First Production Date
7,498.00	7,527.00	29.00	Dana	Tom Smith		Danny Widner		John Forster		10/8/2009		2/17/2010		2/22/2010

### Rigs

Contractor	Rig No.	Rig Type	Start Date	RR Date	TD (ft)	TD Date	Comment
White Mountain	750	Drilling	10/8/2009	10/10/2009	489.00	10/10/09	
Bronco Drilling	27	Drilling	10/26/2009	12/3/2009	12,370.00	11/29/09	



### Wellbore Sections

Section	Wellbore Name	Size (in)	Act Top (ftKB)	Act Btm (ftKB)	Start Date	End Date
Conductor	Original Hole	17 1/2	29.0	489.0	10/8/2009	10/9/2009
Surface	Original Hole	12 1/4	489.0	4,616.0	10/27/2009	11/2/2009
Intermediate	Original Hole	8 3/4	4,616.0	11,638.0	11/5/2009	11/24/2009
Production	Original Hole	6	11,638.0	12,370.0	11/27/2009	11/29/2009

### Surface Csg, 478.0ftKB

Comment						Run Date
						10/9/2009
OD (in)	Wt (lbs/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Description
13 3/8	54.50	J-55	29.0	477.0	447.99	Casing Joints
13 3/8	54.00	J-55	477.0	478.0	1.00	Guide Shoe

### 9 5/8" Intermediate Csg, 4,616.0ftKB

Comment						Run Date
						11/3/2009
OD (in)	Wt (lbs/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Description
9 5/8	40.00	J-55	29.0	29.0	0.00	Casing Landing Joint
9 5/8	40.00	J-55	29.0	34.2	5.25	Casing Hanger & 5' Pup Joint
9 5/8	40.00	J-55	34.2	3,813.6	3,779.33	Casing
9 5/8	36.00	J-55	3,813.6	4,570.1	756.53	Casing
9 5/8	36.00		4,570.1	4,572.1	2.00	Float Collar
9 5/8	36.00		4,572.1	4,614.2	42.07	Casing
9 5/8	36.00		4,614.2	4,616.0	1.85	Float Shoe

### 7" Intermediate Csg, 11,622.0ftKB

Comment						Run Date
						11/25/2009
OD (in)	Wt (lbs/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Description
7	29.00	L-80	29.0	33.0	4.00	Casing Hanger
7	29.00	L-80	33.0	11,321.3	11,288.39	Casing
7	29.00	L-80	11,321.3	11,583.2	261.86	Casing Joints
7	29.00	L-80	11,583.2	11,584.4	1.20	Float Collar
7	29.00	L-80	11,584.4	11,621.0	36.60	Casing
7	29.00	L-80	11,621.0	11,622.0	1.00	Guide Shoe

### Liner, 12,370.0ftKB

Comment						Run Date
						12/1/2009
OD (in)	Wt (lbs/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Description
4 1/2			11,336.9	11,356.9	20.00	Baker ZXP Extension
4 1/2			11,356.9	11,361.9	5.00	Baker HYFLO 2 RH Set Hanger
4 1/2	11.60	HCP-...	11,361.9	11,400.5	38.64	Casing Joints
4 1/2	11.60	HCP-...	11,400.5	12,288.4	887.84	Casing Liner
4 1/2	11.60	HCP-...	12,288.4	12,290.4	2.00	Float Collar
4 1/2	11.60	HCP-...	12,290.4	12,368.0	77.65	Casing Liner
4 1/2	11.60	HCP-...	12,368.0	12,370.0	2.00	Float Shoe DV

### Cement Stages

Description		Pump Start Date	Top (ftKB)	Btm (ftKB)	Top Meas Meth	MD Tagge...
Surface Casing Cement		10/9/2009	29.0	478.0	Returns to Surface	
Wellbore	Fluid Type	Amount (sa...	Class	Est Top (ftKB)	Est Btm (ftKB)	V (bbl)
Original Hole	General		Regular	29.0	478.0	129.0
Description		Pump Start Date	Top (ftKB)	Btm (ftKB)	Top Meas Meth	MD Tagge...
Intermediate Casing Cement		11/3/2009	29.0	4,616.0		
Wellbore	Fluid Type	Amount (sa...	Class	Est Top (ftKB)	Est Btm (ftKB)	V (bbl)
Original Hole	Lead Cement	625	Lite	29.0	4,000.0	425.0
Wellbore	Fluid Type	Amount (sa...	Class	Est Top (ftKB)	Est Btm (ftKB)	V (bbl)
Original Hole	Tail Cement	240	Premium	4,000.0	4,616.0	61.0
Wellbore	Fluid Type	Amount (sa...	Class	Est Top (ftKB)	Est Btm (ftKB)	V (bbl)
Original Hole	Displace...			0.0	4,555.0	350.0
Description		Pump Start Date	Top (ftKB)	Btm (ftKB)	Top Meas Meth	MD Tagge...
Intermediate Casing Cement		11/26/2009	3,900.0	11,622.0	Acoustic Log	
Wellbore	Fluid Type	Amount (sa...	Class	Est Top (ftKB)	Est Btm (ftKB)	V (bbl)
Original Hole	Preflush	25		3,000.0	3,900.0	30.0
Wellbore	Fluid Type	Amount (sa...	Class	Est Top (ftKB)	Est Btm (ftKB)	V (bbl)
Original Hole	Lead Cement	530	Prem Plus	3,900.0	10,300.0	165.0
Wellbore	Fluid Type	Amount (sa...	Class	Est Top (ftKB)	Est Btm (ftKB)	V (bbl)
Original Hole	Tail Cement	145	Prem Plus	10,300.0	11,622.0	44.0
Wellbore	Fluid Type	Amount (sa...	Class	Est Top (ftKB)	Est Btm (ftKB)	V (bbl)
Original Hole	Displace...			0.0	11,622.0	





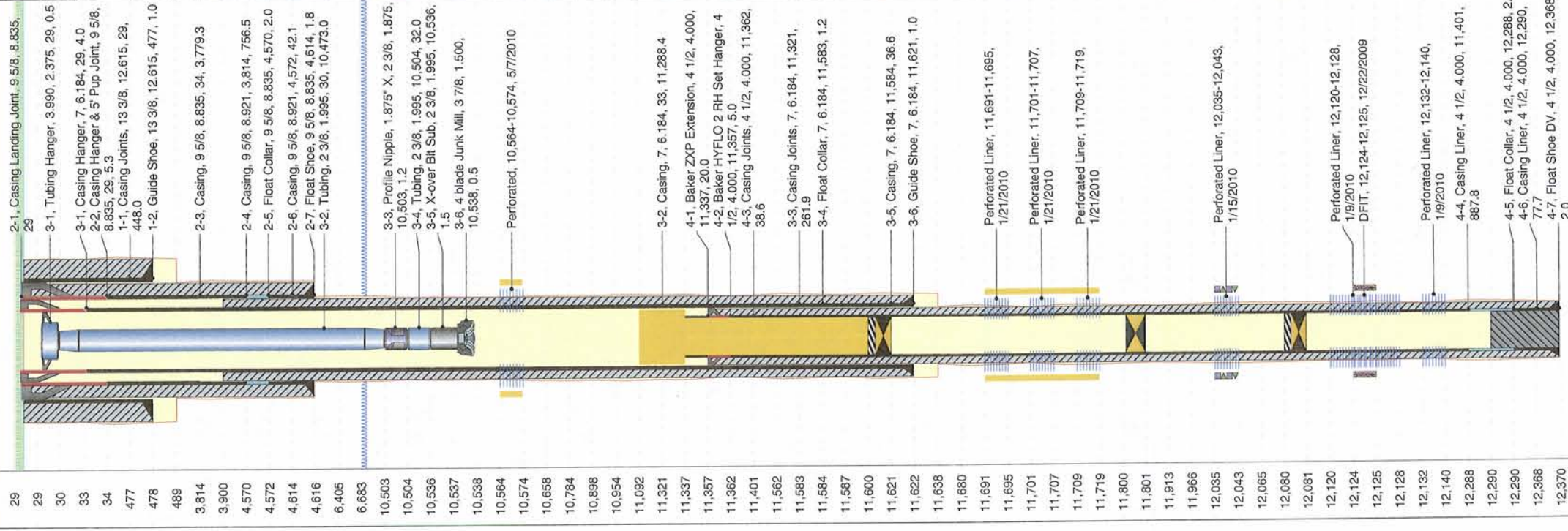
Whiting Oil & Gas Corp  
1700 Broadway, Suite 2300  
Denver, CO 80290  
(303) 837-1661

## Completion Report Info

Well Name: UTE TRIBAL 5-32-14-20

WPC ID	API Number	Well Permit Number	N/S Dist...	N/S ...	E/W Dist (ft)	E/W...	Qtr/Qtr	Sec...	Range	Field Name	Operator	County	State
1UT026847	4304739741	UTU-044317	809.0	FNL	1,529.0	FWL	NE/NW	32	14S	20E	Flat Rock	WOGC	Utah
Gr Elev (ft)	Orig KB Elev (ft)	KB-Grd (ft)	Drilling Contact	Responsible Engineer	Responsible Foreman	Geology Contact	Original Spud Date	Completion Date	First Production Date				
7,498.00	7,527.00	29.00	Dana	Tom Smith	Danny Widner	John Forster	10/8/2009	2/17/2010	2/22/2010				

Well Config: Deviated/Directional - Original Hole, 6/1/2010 8:57:27 AM  
Schematic - Actual



Cement Stages						
Description		Pump Start Date	Top (ftKB)	Btm (ftKB)	Top Meas Meth	MD Tagge...
Liner Cement		12/2/2009	11,357.0	12,370.0	Volume Calculations	
Wellbore	Fluid Type	Amount (sa...	Class	Est Top (ftKB)	Est Btm (ftKB)	V (bbl)
Original Hole	Preflush					
Wellbore	Fluid Type	Amount (sa...	Class	Est Top (ftKB)	Est Btm (ftKB)	V (bbl)
Original Hole	Production Cement	60	50/50 POZ	11,357.0	12,370.0	21.0
Wellbore	Fluid Type	Amount (sa...	Class	Est Top (ftKB)	Est Btm (ftKB)	V (bbl)
Original Hole	Displace...			0.0	12,370.0	
Description		Pump Start Date	Top (ftKB)	Btm (ftKB)	Top Meas Meth	MD Tagge...
Cement Plug		12/2/2009	12,290.0	12,370.0		

### Perforations

Type of Hole	Date	Top (ftKB)	Btm (ftKB)	Zone	Shot Dens	Shot (sho...)	Total
Perforat...	5/7/2010	10,564.0	10,574.0	Dakota Silt, Original Hole	3.0	30	
Perforat...	1/21/2010	11,691.0	11,695.0	Entrada, Original Hole	3.0	12	
Perforat...	1/21/2010	11,701.0	11,707.0	Entrada, Original Hole	3.0	18	
Perforat...	1/21/2010	11,709.0	11,719.0	Entrada, Original Hole	3.0	30	
Perforat...	1/15/2010	12,035.0	12,043.0	Kayenta, Original Hole	3.0	24	
Perforat...	1/9/2010	12,120.0	12,128.0	Wingate, Original Hole	3.0	24	
DFIT	12/22/2009	12,124.0	12,125.0	Wingate, Original Hole	4.0	4	
Perforat...	1/9/2010	12,132.0	12,140.0	Wingate, Original Hole	3.0	24	

### Stim/Treat Stages

Stage Type	Start Date	Top (ftKB)	Btm (ftKB)	Stim/Treat Fluid	V (pumped)
Frac	5/12/2010	10,564.0	10,574.0	7880# 100 Mesh, 150240# 20/40 PRC.30Q pHasfrac.92th, CO2	1490.00
Frac	1/22/2010	11,691.0	11,719.0	10K# Jordan sd, Frac	1236.00
Frac	1/22/2010	11,691.0	11,719.0	80160# 30-50 Tempered LC, 30Q CO2, Foam Frac	1402.00
Acidizat...	1/19/2010	12,035.0	12,043.0	10% HCl, Breakdown	24.00
Breakd...	12/23/2009	12,124.0	12,125.0	10% HCl, Breakdown	44.50

### Tubing Strings

Set Depth (ftKB)	Comment	Run Date	Run Date	Len (ft)	Top (ftKB)	Btm (ftKB)	Pull Date
11,504.0		2/11/2010	5/5/2010				
Item Description							
Tubing Hanger		2 3/8	354	11,440.88	29.5	11,470.4	29.5
Tubing		2 3/8			29.5	11,470.4	
Profile Nipple		2 3/8		1.20	11,470.4	11,471.6	
Tubing		2 3/8	1	32.00	11,471.6	11,503.6	
Collar		3 1/16		0.40	11,503.6	11,504.0	
Set Depth (ftKB)	Comment	Run Date	Run Date	Len (ft)	Top (ftKB)	Btm (ftKB)	Pull Date
10,538.0		5/17/2010					
Item Description							
Tubing Hanger		3.99	322	10,473.00	29.3	29.8	
Tubing		2 3/8			29.8	10,502.8	
Profile Nipple, 1.875" X		2 3/8		1.20	10,502.8	10,504.0	
Tubing		2 3/8	1	32.00	10,504.0	10,536.0	
X-over Bit Sub		2 3/8		1.50	10,536.0	10,537.5	
4 blade Junk Mill		3 7/8		0.50	10,537.5	10,538.0	

### Rods

Rod Description	Comment	Run Date	Run Date	Len (ft)	Top (ftKB)	Btm (ftKB)	Pull Date
Item Description							
Tubing Hanger		3.99	322	10,473.00	29.3	29.8	
Tubing		2 3/8			29.8	10,502.8	
Profile Nipple, 1.875" X		2 3/8		1.20	10,502.8	10,504.0	
Tubing		2 3/8	1	32.00	10,504.0	10,536.0	
X-over Bit Sub		2 3/8		1.50	10,536.0	10,537.5	
4 blade Junk Mill		3 7/8		0.50	10,537.5	10,538.0	
Item Description							
Tubing Hanger		3.99	322	10,473.00	29.3	29.8	
Tubing		2 3/8			29.8	10,502.8	
Profile Nipple, 1.875" X		2 3/8		1.20	10,502.8	10,504.0	
Tubing		2 3/8	1	32.00	10,504.0	10,536.0	
X-over Bit Sub		2 3/8		1.50	10,536.0	10,537.5	
4 blade Junk Mill		3 7/8		0.50	10,537.5	10,538.0	
Item Description							
Tubing Hanger		3.99	322	10,473.00	29.3	29.8	
Tubing		2 3/8			29.8	10,502.8	
Profile Nipple, 1.875" X		2 3/8		1.20	10,502.8	10,504.0	
Tubing		2 3/8	1	32.00	10,504.0	10,536.0	
X-over Bit Sub		2 3/8		1.50	10,536.0	10,537.5	
4 blade Junk Mill		3 7/8		0.50	10,537.5	10,538.0	

Other In Hole		OD (in)	Run Date	Pull Date	Top (ftKB)	Bottom (ftKB)
Description		5 7/8	5/12/2010		11,092.0	11,337.0
Frac Sand Fill						
Comment						
Description		OD (in)	Run Date	Pull Date	Top (ftKB)	Bottom (ftKB)
Frac Sand Fill		3.999	5/12/2010		11,337.0	11,600.0
Comment						



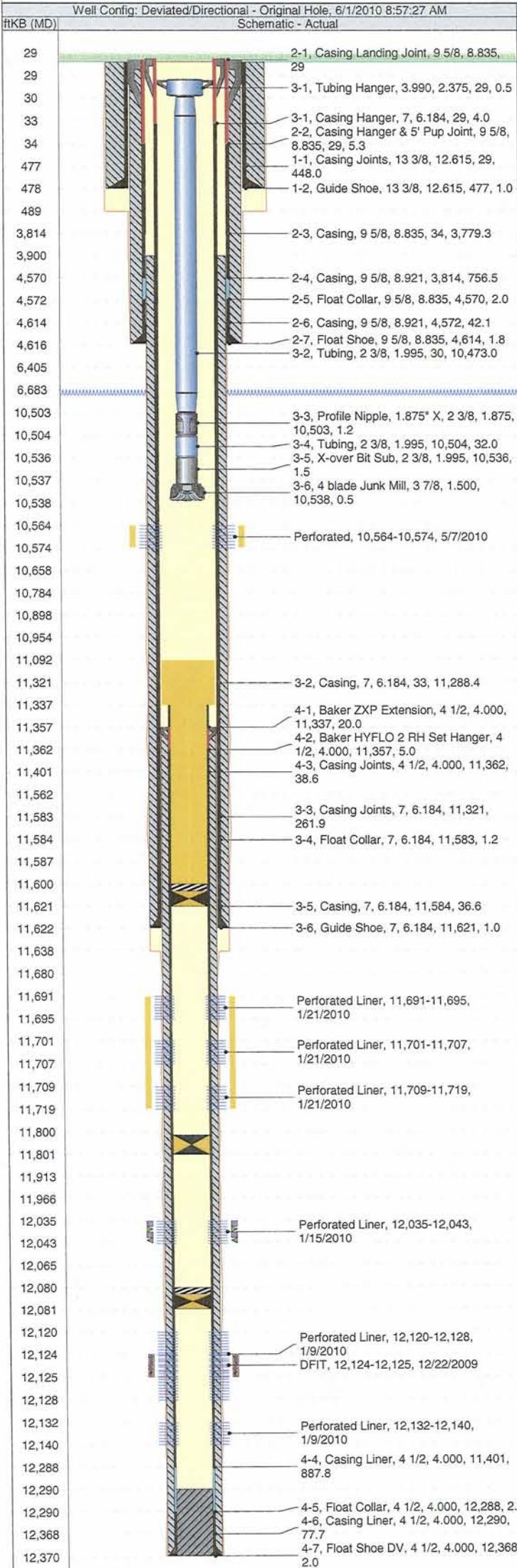


Whiting Oil & Gas Corp  
1700 Broadway, Suite 2300  
Denver, CO 80290  
(303) 837-1661

Completion Report Info

Well Name: UTE TRIBAL 5-32-14-20

WPC ID	API Number	Well Permit Number	N/S Dist...	N/S ...	E/W Dist (ft)	E/W...	Qtr/Qtr	Sec...	Tow...	Range	Field Name	Operator	County	State
1UT026847	4304739741	UTU-044317	809.0	FNL	1,529.0	FWL	NE/NW	32	14S	20E	Flat Rock	WOGC	Uintah	UT
Gr Elev (ft)	Orig KB Elev (ft)	KB-Grd (ft)	Drilling Contact	Responsible Engineer		Responsible Foreman		Geology Contact		Original Spud Date		Completion Date		First Production Date
7,498.00	7,527.00	29.00	Dana	Tom Smith		Danny Widner		John Forster		10/8/2009		2/17/2010		2/22/2010



Other In Hole

Description	OD (in)	Run Date	Pull Date	Top (ftKB)	Bottom (ftKB)
Cmtd Cast Iron Bridge Plug	3.999	5/7/2010		11,600.0	11,621.0
Comment					
Description	OD (in)	Run Date	Pull Date	Top (ftKB)	Bottom (ftKB)
Comp BP	3.999	1/21/2010		11,800.0	11,801.0
Comment					
Description	OD (in)	Run Date	Pull Date	Top (ftKB)	Bottom (ftKB)
Cmtd Cast Iron Bridge Plug	3.99	1/13/2010		12,080.0	12,081.0
Comment					

Cores

C.... No.	Date	Wellbore	Top (ftKB)	Btm (ftKB)	Recov (ft)	% Recov (%)	Comment

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-044317
2. NAME OF OPERATOR: Whiting Oil and Gas Corporation		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute Indian Tribe (surface)
3. ADDRESS OF OPERATOR: 1700 Broadway, Suite 2300 CITY Denver STATE CO ZIP 80290		7. UNIT or CA AGREEMENT NAME:
4. LOCATION OF WELL FOOTAGES AT SURFACE: 809 FNL 1529 FWL COUNTY: Uintah		8. WELL NAME and NUMBER: Ute Tribal 5-32-14-20
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENW 32 14S 20E STATE: UTAH		9. API NUMBER: 4304739741
		10. FIELD AND POOL, OR WILDCAT: Flat Rock/Entrada

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA			
TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input type="checkbox"/> PRODUCTION (START/RESUME) <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	<input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input checked="" type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUT-OFF <input type="checkbox"/> OTHER: _____
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: 2/22/2010			

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Produced water is trucked off production site to one of 5 disposal sites, located in Uintah/Duchesne counties. Copies of State approvals attached.

Ace Oilfield Disposal  
Sec 2-6S-20E  
Uintah County

Wonsite Disposal  
Sec 35-45N-78W  
Uintah County

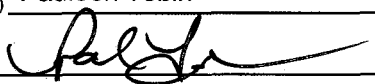
Glen Bench Disposal  
NWNE Sec 5-9S-22E  
Uintah County

Seep Ridge Disposal  
SE Sec 36-10S-20E  
Uintah County

Bluebell Disposal  
Sec 9-2S-2W  
Duchesne County

Water trucked and pits operated by  
RN Industries, Inc.  
P. O. Box 98  
Roosevelt, UT 84066  
435-722-2800

**Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY**

NAME (PLEASE PRINT) <u>Pauleen Tobin</u>	TITLE <u>Engineering Technician</u>
SIGNATURE 	DATE <u>6/5/10</u>

(This space for State use only)

**RECEIVED**  
**JUN 14 2010**



**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

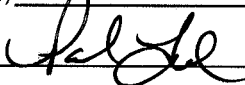
1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-044317
2. NAME OF OPERATOR: Whiting Oil and Gas Corporation		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute Indian Tribe (surface)
3. ADDRESS OF OPERATOR: 1700 Broadway, Suite 2300 CITY Denver STATE CO ZIP 80290		7. UNIT or CA AGREEMENT NAME:
4. LOCATION OF WELL FOOTAGES AT SURFACE: 809 FNL 1529 FWL		8. WELL NAME and NUMBER: Ute Tribal 5-32-14-20
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENW 32 14S 20E		9. API NUMBER: 4304739741
		10. FIELD AND POOL, OR WILDCAT: Flat Rock
		COUNTY: Uintah
		STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA			
TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate)  Approximate date work will start: _____  <input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only)  Date of work completion: 5/31/2010	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: Monthly Completion status Rpt
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

05/2010

MIRU. FCP=350 psi open to sales. Blow down, RIH, set CBP @ 11620', dump 20' cmt on CBP. Load csg w/312 bbls 2% KCl wtr. Pressure to 5000#. Held 5 mins. Bled off. RIH w/ 3 1/8" x 10' perf gun, perf Dakota Silt fr/10564'-74', 3 spf, 30 holes. POOH. RIH w/tandem press recorders to 7000', press @ 3 bpm. Formation broke @ 3392#. Increase rate to 7 bpm & pump 35 bbls, 3620# max, 3475# ISIP, 5 mins 3194#, 10 mins 3070#, 15 mins 2955#. FG .84 monitor press 1 hr @ csg valve. POOH. Surface press after 39.5 hr fall off test is 947 psig, BHSIP=4016 psig @ 7000' (0.4384 psi/ft grad). No gas evolved during SI. Analyze DFIT. NU frac tree, frac w/HES 30Q Foam using 1490 BW, 7500# 100 Mesh sand 143120# 20/40 sand, 92 tons CO2. Form broke @ 4462#, avg rate 28.8 bpm, max rate 34.9 bpm, avg psi 4342#, max psi 7537#. Pumped 334 bbls flush, leaving 56 bbls 30Q foam w/7500# sand in csg, ISIP=7537#, 5mins=6850#, 10mins=6580#, 15mins=6386#. SI. Open to flowback on 48" ck, ck back to 20". Turn over to flowback crew, unloading, swab 22 bbls in 6 runs, tbg flowed water w/sand for 5 hrs. Tbg died. Swab 50 bbls in 8 runs, con't swabbing back frac fluid, rec'g foamy water w/CO2, no gas. SI for PBU. Open tbg to pit, unload 25 bbls, turned to heavy mist flowing @ 440# FTP, pressure dropped to 75#. Attempt to burn gas, no burn. SI.

NAME (PLEASE PRINT) <u>Paulen Tobin</u>	TITLE <u>Engineering Technician</u>
SIGNATURE <u></u>	DATE <u>7/2/10</u>

(This space for State use only)

**RECEIVED**

**JUL 06 2010**

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

**SUNDRY NOTICES AND REPORTS ON WELLS**

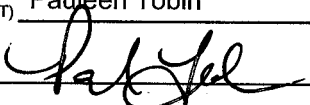
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-044317
2. NAME OF OPERATOR: Whiting Oil and Gas Corporation		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute Indian Tribe (surface)
3. ADDRESS OF OPERATOR: 1700 Broadway, Suite 2300 CITY Denver STATE CO ZIP 80290		7. UNIT or CA AGREEMENT NAME:
4. LOCATION OF WELL FOOTAGES AT SURFACE: 809 FNL 1529 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENW 32 14S 20E		8. WELL NAME and NUMBER: Ute Tribal 5-32-14-20 9. API NUMBER: 4304739741 10. FIELD AND POOL, OR WILDCAT: Flat Rock
		COUNTY: Uintah STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA			
TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input type="checkbox"/> PRODUCTION (START/RESUME) <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	<input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUT-OFF <input checked="" type="checkbox"/> OTHER: Monthly Completion status Rpt
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: 6/30/2010			

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

06/2010  
Open to pit gas now burnable. SI PBU. Hook up to gath sys and sales, producing from Dakota Silt.

NAME (PLEASE PRINT) Pauleen Tobin	TITLE Engineering Technician
SIGNATURE 	DATE 7/2/10

(This space for State use only)

RECEIVED

JUL 06 2010

DIV. OF OIL, GAS & MINING

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 6

**ENTITY ACTION FORM**

Operator: Whiting Oil and Gas Corporation Operator Account Number: N 2680  
Address: 1700 Broadway, Suite 2300  
city Denver  
state CO zip 80290 Phone Number: (303) 837-1661

**Well 1**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304739741	Ute Tribal 5-32-14-20		NENW	32	14S	20E	Uintah
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
E	17406	17406	10/8/2009			2/17/2010	
<b>Comments:</b> From Wingt to <u>DKENT</u> — <u>7/23/10</u>							

**Well 2**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304739739	Ute Tribal 3-30-14-20		NENW	30	14S	20E	Uintah
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
E	17526	17526	2/19/2010			5/6/2010	
<b>Comments:</b> From Wingt to <u>Entrada</u> — <u>7/28/10</u>							

**Well 3**

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
<b>Comments:</b>							

**ACTION CODES:**

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

**RECEIVED**  
**JUL 28 2010**

Pauleen Tobin

Name (Please Print)



Signature

Engineering Tech

Title

7/28/10  
Date

## Division of Oil, Gas and Mining

## Operator Change/Name Change Worksheet-for State use only

Effective Date: 8/1/2015

FORMER OPERATOR:	NEW OPERATOR:
WHITING OIL & GAS CORPORATION N2680 1700 BROADWAY SUITE 2300 DENVER CO 80290	COBRA OIL & GAS CORPORATION N4270 PO BOX 8206 WICHITA FALLS TX 76307-8206
CA Number(s):	Unit Name: None

**WELL INFORMATION:**

Well Name	Sec	TWN	RNG	API	Entity	Mineral	Surface	Type	Status
See Attached List									

**OPERATOR CHANGES DOCUMENTATION:**

1. Sundry or legal documentation was received from the **FORMER** operator on: 8/4/2015
2. Sundry or legal documentation was received from the **NEW** operator on: 8/4/2015
3. New operator Division of Corporations Business Number: 9442951-0143

**REVIEW:**

1. Surface Agreement Sundry from **NEW** operator on Fee Surface wells received on: N/A
2. Receipt of Acceptance of Drilling Procedures for APD on: N/A
3. Reports current for Production/Disposition & Sundries: 10/5/2015
4. OPS/SI/TA well(s) reviewed for full cost bonding: 10/2/2015
5. UIC5 on all disposal/injection/storage well(s) approved on: N/A
6. Surface Facility(s) included in operator change: Chimney Rock Compressor  
Flat Rock Compressor
7. Inspections of PA state/fee well sites complete on (only upon operators request): 10/15/2015

**NEW OPERATOR BOND VERIFICATION:**

1. Federal well(s) covered by Bond Number: B009425
2. Indian well(s) covered by Bond Number: B009425
3. State/fee well(s) covered by Bond Number(s): B009455  
B009568-FCB  
B009567-FCB  
B009566-FCB

**DATA ENTRY:**

1. Well(s) update in the **OGIS** on: 10/14/2015
2. Entity Number(s) updated in **OGIS** on: 10/14/2015
3. Unit(s) operator number update in **OGIS** on: N/A
4. Surface Facilities update in **OGIS** on: N/A
5. State/Fee well(s) attached to bond(s) in **RBDMS** on: 10/14/2015
6. Surface Facilities update in **RBDMS** on: 10/14/2015

**LEASE INTEREST OWNER NOTIFICATION:**

1. The **NEW** operator of the Fee (Mineral) wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: N/A

**COMMENTS:**

From: Whiting Oil Gas Corporation

To: Cobra Oil Gas Corporation

Effective: 8/1/2015

Well Name	Section	TWN	RNG	API Number	Entity	Mineral	Surface	Type	Status
UTE TRIBAL 32-5A	32	140S	200E	4304710577	12655	State	Indian	GW	P
UTE TRIBAL 30-3A	30	140S	200E	4304710913	12395	Federal	Indian	OW	P
UTE TRIBAL 29-1A	29	140S	200E	4304730981	8118	Federal	Indian	GW	P
UTE TRIBAL 32-2A	32	140S	200E	4304733333	12658	State	Indian	GW	P
UTE TRIBAL 32-6A	32	140S	200E	4304733337	12662	State	Indian	GW	P
CHIMNEY ROCK 32-13	32	130S	210E	4304733447	12985	State	State	GW	P
CHIMNEY ROCK 32-14	32	130S	210E	4304733448	12983	State	State	GW	P
UTE TRIBAL 32-8A	32	140S	200E	4304733557	13066	State	Indian	GW	P
UTE TRIBAL 32-12A	32	140S	200E	4304733558	13064	State	Indian	GW	P
UTE TRIBAL 30-6A	30	140S	200E	4304733596	13062	Federal	Indian	GW	P
UTE TRIBAL 29-5A	29	140S	200E	4304733617	13061	Federal	Indian	GW	P
UTE TRIBAL 32-7A	32	140S	200E	4304733618	13065	State	Indian	GW	P
UTE TRIBAL 32-9A	32	140S	200E	4304733619	13067	State	Indian	GW	P
UTE TRIBAL 32-10A	32	140S	200E	4304733620	13054	State	Indian	GW	P
UTE TRIBAL 32-16A	32	140S	200E	4304734098	13449	State	Indian	GW	P
UTE TRIBAL 29-6A	29	140S	200E	4304734102	13443	Federal	Indian	GW	P
UTE TRIBAL 29-7A	29	140S	200E	4304734103	13444	Federal	Indian	GW	P
UTE TRIBAL 10-2-15-20	2	150S	200E	4304735625	14167	State	Indian	GW	P
FLAT ROCK 13-29-14-20	29	140S	200E	4304736778	15065	Federal	Indian	GW	P
FLAT ROCK 3-29-14-20	29	140S	200E	4304736795	15099	Federal	Indian	GW	P
UTE TRIBAL 6-16-14-20	16	140S	200E	4304738506	16320	State	Indian	GW	P
UTE TRIBAL 15-25-14-19	30	140S	200E	4304739052	16169	Indian	Indian	GW	P
UTE TRIBAL 1-30-14-20	30	140S	200E	4304739665	16997	Federal	Indian	GW	P
UTE TRIBAL 3-30-14-20	30	140S	200E	4304739739	17526	Federal	Indian	GW	P
UTE TRIBAL 11-30-14-20	30	140S	200E	4304739740	17358	Federal	Indian	GW	P
UTE TRIBAL 5-32-14-20	32	140S	200E	4304739741	17406	State	Indian	GW	P
UTE TRIBAL 15-30-14-20	30	140S	200E	4304739942	17237	Federal	Indian	GW	P
UTE TRIBAL 1-25-14-19	30	140S	200E	4304750654	17454	Indian	Indian	GW	P
UTE TRIBAL 13-25-14-19	26	140S	190E	4304750689	17808	Indian	Indian	GW	P
UTE TRIBAL 5-25-14-19	26	140S	190E	4304750690	17760	Indian	Indian	GW	P
UTE TRIBAL 3-25-14-19	30	140S	200E	4304751030	17759	Indian	Indian	GW	P
CHIMNEY ROCK 32-11	32	130S	210E	4304733445	12984	State	State	GW	PA
UTE TRIBAL 32-11A	32	140S	200E	4304733621	13058	State	Indian	GW	PA
FLAT ROCK 13-32-14-20	32	140S	200E	4304736992	17354	State	Indian	D	PA
FLAT ROCK 14-32-14-20	32	140S	200E	4304736993	17355	State	Indian	D	PA
FLAT ROCK 15-32-14-20	32	140S	200E	4304736994	17356	State	Indian	D	PA
UTE TRIBAL 8-25-14-19	30	140S	200E	4304739053	17353	Indian	Indian	D	PA
UTE TRIBAL 30-5A	30	140S	200E	4304720502	12654	Federal	Indian	GW	S
UTE TRIBAL 30-2A	30	140S	200E	4304730641	8112	Federal	Indian	GW	S
UTE TRIBAL 32-1A	32	140S	200E	4304732758	12064	State	Indian	OW	S
UTE TRIBAL 29-2A	29	140S	200E	4304732945	8118	Federal	Indian	OW	S
UTE TRIBAL 32-3A	32	140S	200E	4304733334	12657	State	Indian	GW	S
UTE TRIBAL 32-4A	32	140S	200E	4304733335	12656	State	Indian	GW	S
UTE TRIBAL 28-1A	28	140S	200E	4304733595	13059	Federal	Indian	GW	S
UTE TRIBAL 29-4A	29	140S	200E	4304733616	13060	Federal	Indian	GW	S

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

**SUNDRY NOTICES AND REPORTS ON WELLS**

5. LEASE DESIGNATION AND SERIAL NUMBER:

See attached exhibit

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

See attached exhibit

7. UNIT or CA AGREEMENT NAME:

See attached exhibit

8. WELL NAME and NUMBER:

See attached exhibit

9. API NUMBER:

See attach

10. FIELD AND POOL, OR WILDCAT:

See attached exhibit

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL

OIL WELL ☐

GAS WELL ☐

OTHER See attached exhibit

2. NAME OF OPERATOR:

COBRA OIL & GAS CORPORATION N4270

3. ADDRESS OF OPERATOR:

PO Box 8206

Wichita Falls

TX

76307-8206

PHONE NUMBER:

(940) 716-5100

4. LOCATION OF WELL

FOOTAGES AT SURFACE: See attached exhibit

COUNTY: Uintah

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE:

UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

TYPE OF ACTION



NOTICE OF INTENT  
(Submit in Duplicate)

Approximate date work will start:



SUBSEQUENT REPORT  
(Submit Original Form Only)

Date of work completion:

8/1/2015



ACIDIZE



ALTER CASING



CASING REPAIR



CHANGE TO PREVIOUS PLANS



CHANGE TUBING



CHANGE WELL NAME



CHANGE WELL STATUS



COMINGLE PRODUCING FORMATIONS



CONVERT WELL TYPE



DEEPEN



FRACTURE TREAT



NEW CONSTRUCTION



OPERATOR CHANGE



PLUG AND ABANDON



PLUG BACK



PRODUCTION (START/RESUME)



RECLAMATION OF WELL SITE



RECOMPLETE - DIFFERENT FORMATION



REPERFORATE CURRENT FORMATION



SIDETRACK TO REPAIR WELL



TEMPORARILY ABANDON



TUBING REPAIR



VENT OR FLARE



WATER DISPOSAL



WATER SHUT-OFF



OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Effective August 1, 2015, Whiting Oil & Gas Corporation resigned as Operator of the wells listed on the attached Exhibit, and Cobra Oil & Gas Corporation has been designated as successor Operator.

Cobra Oil & Gas Corporation  
PO Box 8206  
Wichita Falls, TX 76307-8206  
Phone: (940) 716-5100

Whiting Oil & Gas Corporation N2680  
1700 Broadway, Suite 2300  
Denver, CO 80290  
Phone: (303) 837-1661



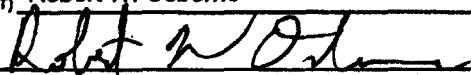
Rick Ross, Senior Vice President - Operations

Bonds through U.S. Specialty Insurance Company  
Utah State Bond: B009455  
BLM Nationwide Bond: B009425

NAME (PLEASE PRINT) Robert W. Osborne

TITLE Vice President

SIGNATURE



DATE

7/14/15

(This space for State use only)

**APPROVED**

(5/2000)

(See Instructions on Reverse Side)

OCT 14 2015

DIV. OIL GAS & MINING  
BY: Rachel Medina

# Well Exhibit for Utah DOGM

LEASE/UNIT	Lease #	Tribe Name	API #	FIELD	COUNTY	STATE	RESERVOIR	LOCATION: SEC - TWP - RNG
CHIMNEY ROCK 32-11	ML-47437		4304733445	SEEP RIDGE B	UINTAH	UT	DAKOTA	32-T13S-R21E
CHIMNEY ROCK 32-13	ML-47437		4304733447	SEEP RIDGE B	UINTAH	UT	DAKOTA-CEDAR MOUNTAIN	32-T13S-R21E
CHIMNEY ROCK 32-14	ML-47437		4304733448	SEEP RIDGE B	UINTAH	UT	DAKOTA-CEDAR MOUNTAIN	32-T13S-R21E
FLAT ROCK 13-29-14-20	UTU10166		4304736778	FLAT ROCK	UINTAH	UT	ENTRADA	29-T14S-R20E
FLAT ROCK 13-32-14-20	ML-44317		4304736992	FLAT ROCK	UINTAH	UT	WINGT	32-T14S-R20E
FLAT ROCK 14-32-14-20	ML-44317		4304736993	FLAT ROCK	UINTAH	UT	MESA VERDE	32-T14S-R20E
FLAT ROCK 15-32-14-20	ML-44317		4304736994	FLAT ROCK	UINTAH	UT	MESA VERDE	32-T14S-R20E
FLAT ROCK 30-3A	UTU019837		<del>4304730729</del>	FLAT ROCK	UINTAH	UT	N/A	30-T14S-R20E
FLAT ROCK 3-29-14-20	UTU10166		4304736795	FLAT ROCK	UINTAH	UT	ENTRADA	29-T14S-R20E
UTE TRIBAL 10-2-15-20	ML-46842		4304735625	FLAT ROCK	UINTAH	UT	WASATCH	2-T15S-R20E
UTE TRIBAL 11-30-14-20	UTU019837		4304739740	FLAT ROCK	UINTAH	UT	DAKOTA-BUCKHORN	30-T14S-R20E
UTE TRIBAL 1-25-14-19	1420H625581	Ute Tribe	4304750654	FLAT ROCK	UINTAH	UT	ENTRADA	30-T14S-R20E
UTE TRIBAL 1-30-14-20	UTU019837		4304739665	FLAT ROCK	UINTAH	UT	ENTRADA	30-T14S-R20E
UTE TRIBAL 13-25-14-19	1420H625581	Ute Tribe	4304750689	FLAT ROCK	UINTAH	UT	ENTRADA	26-T14S-R19E
UTE TRIBAL 15-25-14-19	1420H625581	Ute Tribe	4304739052	FLAT ROCK	UINTAH	UT	ENTRADA	30-T14S-R20E
UTE TRIBAL 15-30-14-20	UTU019837		4304739942	FLAT ROCK	UINTAH	UT	ENTRADA	30-T14S-R20E
UTE TRIBAL 28-1A	UTU10166		4304733595	FLAT ROCK	UINTAH	UT	DAKOTA	28-T14S-R20E
UTE TRIBAL 29-1A	UTU10166		4304730981	FLAT ROCK	UINTAH	UT	WASATCH	29-T14S-R20E
UTE TRIBAL 29-2A	UTU10166		4304732945	FLAT ROCK	UINTAH	UT	WASATCH	29-T14S-R20E
UTE TRIBAL 29-3A	UTU10166		4304732946	FLAT ROCK	UINTAH	UT	WASATCH	29-T14S-R20E
UTE TRIBAL 29-4A	UTU10166		4304733616	FLAT ROCK	UINTAH	UT	DAKOTA	29-T14S-R20E
UTE TRIBAL 29-5A	UTU10166		4304733617	FLAT ROCK	UINTAH	UT	CEDAR MOUNTAIN	29-T14S-R20E
UTE TRIBAL 29-6A	UTU10166		4304734102	FLAT ROCK	UINTAH	UT	CURTIS-ENTRADA	29-T14S-R20E
UTE TRIBAL 29-7A	UTU10166		4304734103	FLAT ROCK	UINTAH	UT	CURTIS-ENTRADA	29-T14S-R20E
UTE TRIBAL 30-1	UTU019837		<del>4304715764</del>	FLAT ROCK	UINTAH	UT	WASATCH	30-T14S-R20E
UTE TRIBAL 30-2A	UTU019837		4304730641	FLAT ROCK	UINTAH	UT	WASATCH	30-T14S-R20E
UTE TRIBAL 30-3A	UTU019837		4304710913	FLAT ROCK	UINTAH	UT	WASATCH	30-T14S-R20E
UTE TRIBAL 30-4A	UTU019837		4304716520	FLAT ROCK	UINTAH	UT	TW	30-T14S-R20E
UTE TRIBAL 30-5A	UTU019837		4304720502	FLAT ROCK	UINTAH	UT	WASATCH	30-T14S-R20E
UTE TRIBAL 30-6A	UTU019837		4304733596	FLAT ROCK	UINTAH	UT	DAKOTA	30-T14S-R20E
UTE TRIBAL 32-10A	ML-44317		<del>4304733620</del>	FLAT ROCK	UINTAH	UT	WASATCH	32-T14S-R20E
UTE TRIBAL 32-11A	ML-44317		4304733621	FLAT ROCK	UINTAH	UT	WASATCH	32-T14S-R20E
UTE TRIBAL 32-12A	ML-44317		4304733558	FLAT ROCK	UINTAH	UT	CEDAR MOUNTAIN	32-T14S-R20E
UTE TRIBAL 32-16A	ML-44317		4304734098	FLAT ROCK	UINTAH	UT	DAKOTA-CEDAR MOUNTAIN	32-T14S-R20E
UTE TRIBAL 32-1A	ML-44317		4304732758	FLAT ROCK	UINTAH	UT	WASATCH	32-T14S-R20E
UTE TRIBAL 32-2A	ML-44317		4304733333	FLAT ROCK	UINTAH	UT	WASATCH	32-T14S-R20E
UTE TRIBAL 32-3A	ML-44317		4304733334	FLAT ROCK	UINTAH	UT	WASATCH-MESAVERDE	32-T14S-R20E
UTE TRIBAL 32-4A	ML-44317		4304733335	FLAT ROCK	UINTAH	UT	WASATCH	32-T14S-R20E
UTE TRIBAL 3-25-14-19	1420H625581	Ute Tribe	4304751030	FLAT ROCK	UINTAH	UT	ENTRADA	30-T14S-R20E

## Well Exhibit for Utah DOGM

LEASE/UNIT	Lease #	Tribe Name	API #	FIELD	COUNTY	STATE	RESERVOIR	LOCATION: SEC - TWP - RNG
UTE TRIBAL 32-5A	ML-44317		4304710577	FLAT ROCK	UINTAH	UT	WASATCH	32-T14S-R20E
UTE TRIBAL 32-6A	ML-44317		4304733337	FLAT ROCK	UINTAH	UT	WASATCH	32-T14S-R20E
UTE TRIBAL 32-7A	ML-44317		4304733618	FLAT ROCK	UINTAH	UT	WASATCH	32-T14S-R20E
UTE TRIBAL 32-8A	ML-44317		4304733557	FLAT ROCK	UINTAH	UT	DAKOTA	32-T14S-R20E
UTE TRIBAL 32-9A	ML-44317		4304733619	FLAT ROCK	UINTAH	UT	DAKOTA-CEDAR MOUNTAIN	32-T14S-R20E
UTE TRIBAL 3-30-14-20	UTU019837		4304739739	FLAT ROCK	UINTAH	UT	ENTRADA	30-T14S-R20E
UTE TRIBAL 5-25-14-19	1420H625581	Ute Tribe	4304750690	FLAT ROCK	UINTAH	UT	ENTRADA	26-T14S-R19E
UTE TRIBAL 5-32-14-20	ML-44317		4304739741	FLAT ROCK	UINTAH	UT	DAKOTA ENTRADA	32-T14S-R20E
UTE TRIBAL 6-16-14-20	ML-47502		4304738506	FLAT ROCK	UINTAH	UT	ENTRADA	16-T14S-R20E
UTE TRIBAL 8-25-14-19	1420H625581	Ute Tribe	4304739053	FLAT ROCK	UINTAH	UT	N/A	30-T14S-R20E





RECEIVED

AUG 04 2015

DIV. OF OIL, GAS & MINING

July 16, 2015

Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801

Re: Change of Operator

Whiting Oil and Gas Corporation respectfully submits change of operator  
sundries for Flat Rock field in Uintah County, UT.

The new operator is  
Cobra Oil and Gas Corporation  
PO Box 8206  
Wichita Falls, TX 76307-8206  
Phone: (940) 716-5100

Regulatory Admin for Cobra:  
Barbara Pappas  
940-716-5103  
Barbara@cobraogc.com

Please contact Barbara Pappas or myself if you should have questions or need  
additional information.

Best Regards,

Cara Mezydlo,  
Engineering Technician III – Central Rockies Asset Group  
(303) 876-7091  
Cara.mezydlo@whiting.com

*Whiting Petroleum Corporation  
and its wholly owned subsidiary  
Whiting Oil and Gas Corporation*

1700 Broadway, Suite 2300, Denver, Colorado 80290-2300 Office: 303.837.1661 Fax: 303.861.4023



RECEIVED  
AUG 04 2015  
DIV. OF OIL, GAS & MINING

July 16, 2015

Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801

Re: Change of Operator

Whiting Oil and Gas Corporation respectfully submits change of operator  
sundries for Flat Rock field in Uintah County, UT.

The new operator is  
Cobra Oil and Gas Corporation  
PO Box 8206  
Wichita Falls, TX 76307-8206  
Phone: (940) 716-5100

Regulatory Admin for Cobra:  
Barbara Pappas  
940-716-5103  
Barbara@cobraogc.com

Please contact Barbara Pappas or myself if you should have questions or need  
additional information.

Best Regards,

Cara Mezydlo,  
Engineering Technician III – Central Rockies Asset Group  
(303) 876-7091  
Cara.mezydlo@whiting.com

*Whiting Petroleum Corporation  
and its wholly owned subsidiary  
Whiting Oil and Gas Corporation*

1700 Broadway, Suite 2300, Denver, Colorado 80290-2300 Office: 303.837.1661 Fax: 303.861.4023



Rachel Medina <rachelmedina@utah.gov>

## Plugged Wells

8 messages

**Rachel Medina** <rachelmedina@utah.gov>  
To: Barbara Pappas <barbara@cobraogc.com>

Thu, Aug 6, 2015 at 11:05 AM

Hi Barbara,

The following Whiting wells are listed on the request for the Cobra operator change, but are currently plugged. Our Division does not usually move plugged well unless the new operator has plans to reenter the wells. Will this be the case for Cobra?

CHIMNEY ROCK 32-11	32	130S	210E	4304733445
UTE TRIBAL 32-11A	32	140S	200E	4304733621
FLAT ROCK 13-32-14-20	32	140S	200E	4304736992
FLAT ROCK 14-32-14-20	32	140S	200E	4304736993
FLAT ROCK 15-32-14-20	32	140S	200E	4304736994
UTE TRIBAL 8-25-14-19	30	140S	200E	4304739053

Also, the following wells were listed on the exhibit but are not currently operated by Whiting. They will not move in the operator change.

Flat Rock 30-3A 4304730729  
Ute Tribal 30-1 4304715764  
Ute Tribal 30-4A 4304716520

Thanks!

—  
Rachel Medina  
Division of Oil, Gas & Mining  
Bonding Technician  
801-538-5260

**Rachel Medina** <rachelmedina@utah.gov>  
To: Barbara Pappas <barbara@cobraogc.com>

Thu, Aug 6, 2015 at 2:36 PM

Hi Barbara,

Cobra is also taking over 3 State/Fee wells that have been shut in for over a year. Because of this our Petroleum Engineer is requesting a shut in plan and full cost bonding. For the shut in plan you will need to submit an outline and time frame of the plans for each well. To determine full cost bonding you will need to submit a plugging estimate, our engineer will evaluate the cost and set the bond for each well at the estimate or depth bonding (as outline in the rules), whichever is greater.

Please let me know if you have any questions.

Thanks!

[Quoted text hidden]

**Barbara Pappas** <barbara@cobraogc.com>  
To: Rachel Medina <rachelmedina@utah.gov>

Thu, Aug 6, 2015 at 3:10 PM

Rachel:

I have forwarded to my managers and hopefully will have an answer for you soon.

Thanks,

Barbara

**From:** Rachel Medina [mailto:rachelmedina@utah.gov]

**Sent:** Thursday, August 06, 2015 3:37 PM

**To:** Barbara Pappas <barbara@cobraogc.com>

**Subject:** Re: Plugged Wells

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**Rachel Medina** <rachelmedina@utah.gov>  
To: Barbara Pappas <barbara@cobraogc.com>

Fri, Aug 14, 2015 at 8:58 AM

Hi Barbara,

The Division received confirmation that the plugged wells need to be moved to Cobra. At this point we are waiting for shut in plans and plugging estimates on the following wells.

UTE TRIBAL 32-1A  
UTE TRIBAL 32-3A  
UTE TRIBAL 32-4A

Thanks!

[Quoted text hidden]

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**Charlie Gibson** <charlie@cobraogc.com>  
To: "rachelmedina@utah.gov" <rachelmedina@utah.gov>  
Cc: Rory Edwards <rory@cobraogc.com>, Bobby Hess <bhess@cobraogc.com>, Kyle Gardner <kgardner@cobraogc.com>, Barbara Pappas <barbara@cobraogc.com>

Wed, Aug 19, 2015 at 8:40 AM

Rachel,

We have studied the wells listed below and our estimate to plug the wells is \$20,000/well. We also believe that the wells still have economic potential and plan on working on the wells by 10-1-2015 to attempt to re-establish production. Let me know if you have any questions.

**Charlie Gibson**

Operations Manager

**Cobra Oil & Gas**

(940)716-5100 (o)

(940)781-6260 (c)

**From:** Rachel Medina [mailto:rachelmedina@utah.gov]

**Sent:** Friday, August 14, 2015 9:59 AM

**To:** Barbara Pappas <barbara@cobraogc.com>

**Subject:** Re: Plugged Wells

Hi Barbara,

[Quoted text hidden]

[Quoted text hidden]

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**Rachel Medina** <rachelmedina@utah.gov>  
To: Dustin Doucet <dustindoucet@utah.gov>

Wed, Aug 19, 2015 at 4:46 PM

What are you thoughts on the full cost bonding and the shut in plan?

[Quoted text hidden]

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**Dustin Doucet** <dustindoucet@utah.gov>  
To: Rachel Medina <rachelmedina@utah.gov>

Wed, Aug 19, 2015 at 6:16 PM

Without more supporting evidence of their P&A cost estimate, I don't feel comfortable with the estimate provided. It appears several plugs may need to be drilled out to properly isolate formations with open perfs with cement as required by rule. I doubt this was taken into consideration in their estimates. Since they are proposing to work the wells over by October 1, 2015, I would be willing to accept the \$30,000 depth bond per well to get these transferred and let them get the work done with the caveat that we will require more information on P&A costs and would require full cost bonds if found to be more than \$30K per well if the work is not done by October 1, 2015.

[Quoted text hidden]

—  
Dustin K. Doucet  
Petroleum Engineer  
Division of Oil, Gas and Mining  
1594 West North Temple, Ste 1210  
Salt Lake City, Utah 84116  
801.538.5281 (ofc)  
801.359.3940 (fax)

web: www.ogm.utah.gov

---

**Rachel Medina** <rachelmedina@utah.gov>  
To: Charlie Gibson <charlie@cobraogc.com>  
Cc: Rory Edwards <rory@cobraogc.com>, Bobby Hess <bhess@cobraogc.com>, Kyle Gardner <kgardner@cobraogc.com>, Barbara Pappas <barbara@cobraogc.com>

Thu, Aug 20, 2015 at 9:09 AM

Hi Charlie,

The following is our Petroleum Engineer's review;

-Ute Tribal 32-1A, Ute Tribal 32-3A and Ute Tribal 32-4A are each required to have a \$30,000.00 individual bond.  
-Cobra's plan to put the wells on production by October 1, 2015 is accepted, however a condition has been placed that if the wells are not producing by October 1st the Division **will require** a new P&A estimate be

submitted and reviewed for full cost bonding.

Please submit bonding for each well, if Cobra needs the new bonding forms again please let me know. As soon as the bond is received we can begin to process the operator change.

Thanks!

[Quoted text hidden]



Rachel Medina &lt;rachelmedina@utah.gov&gt;

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**Utah Change of Operator from Whiting to Cobra**

1 message

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**Charlie Gibson** <charlie@cobraogc.com>

Thu, Aug 13, 2015 at 2:17 PM

To: "rachelmedina@utah.gov" &lt;rachelmedina@utah.gov&gt;

Cc: Jeff Dillard &lt;jeff@cobraogc.com&gt;, Bob Osborne &lt;bob@cobraogc.com&gt;, Stephen Howard &lt;Showard@basinoilandgas.com&gt;, Caven Crosnoe &lt;ccrosnoe@scglaw.com&gt;, Rory Edwards &lt;rory@cobraogc.com&gt;, Phil Rugeley &lt;phil@cobraogc.com&gt;, Rick Haskin &lt;rick@cobraogc.com&gt;, Barbara Pappas &lt;barbara@cobraogc.com&gt;

Dear Rachel,

We have been informed by Whiting Oil and Gas Corporation that you have requested an email from Cobra Oil & Gas Corporation acknowledging that we have agreed to assume all plugging, abandoning and reclamation obligations for the wells described below. In accordance with the terms and conditions of the Purchase and Sale Agreement (Agreement) between Whiting Oil and Gas Corporation (Seller) and Cobra Oil & Gas Corporation, et al (Buyer), please be advised the Buyer assumed the obligation to plug and abandon all wells located on the Lands and reclaim all well sites located on the Lands regardless of when the obligations arose. Accordingly Cobra Oil and Gas Corporation, as Operator, assumes those obligations and liabilities associated with the wells described below:

CHIMNEY ROCK 32130S 210E 4304733445  
32-11

UTE TRIBAL 32- 32140S 200E 4304733621  
11A

FLAT ROCK 13- 32140S 200E 4304736992  
32-14-20

FLAT ROCK 14- 32140S 200E 4304736993  
32-14-20

FLAT ROCK 15- 32140S 200E4304736994  
32-14-20

UTE TRIBAL 8- 30140S 200E4304739053  
25-14-19

Flat Rock 30-3A 4304730729

Ute Tribal 30-1 4304715764

Ute Tribal 30-4A 4304716520

Sincerely,

**Charlie Gibson**

Operations Manager

**Cobra Oil & Gas**

**(940)716-5100 (o)**

**(940)781-6260 (c)**